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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1994

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Department of Defense Appropriation...

RINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

FIRST SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF DEFENSE

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1994

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1994

Tuesday, May 11, 1993.

COMMAND, CONTROL AND COMMUNICATIONS—OVERVIEW

WITNESSES

THOMAS P. QUINN, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR STRATEGIC AND TACTICAL C3, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE)

KEITH R. HALL, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR INTELLIGENCE, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE)

Introduction

Mr. Murtha. The Committee will come to order.

Today the Committee welcomes Dr. Thomas P. Quinn, Deputy Assistant Secretary of Defense for Strategic and Tactical Command, Control and Communications. The Committee also welcomes Mr. Keith Hall, Deputy Assistant Secretary of Defense for Intelligence. They will present the fiscal year 1994 budget request for C3I programs.

Earlier we were discussing education and C3I programs. A couple of years ago, I spoke at Penn State's graduate school for Engineering. I asked how many American-born students they had. I was told seven. This was in a class of 125 to 130 students. I was shocked. We put $50 million into the budget at that time for scholarships for graduate engineers. We now have a scholarship program for 600 students receiving a stipend of $60,000, enabling them to get a graduate degree. It has been a successful program as far as we can tell.

I don't know whether it was cost or incentives, or other factors, but we weren't getting engineering students at the graduate level. I know that affects your business because education is needed in your business.

I appreciate your coming before the Committee. We would be interested in hearing your comments. We will put your complete statement in the record, and if you will summarize, we will get right to questions.

Summary Statement of Mr. Quinn

Dr. Quinn. Good morning. Thank you, Mr. Chairman. Your comments about Penn State—I am a product of Penn State and get back there occasionally. I recognize the problem fully. Graduate school has a problem getting good students and American students and there is an imbalance there. We keep trying to do something about it, but it is a tough problem.

Mr. MURTHA. I would bet that the countries are paying for the education of their students. Many of the Gulf States can afford to pay. They realize the importance of the education and those countries are willing to make that kind of expenditure. Penn State has several scholarships which we have offered.

OVERVIEW OF BUDGET REQUEST

Dr. QUINN. Mr. Chairman and members of the Committee, it is my privilege to present the Department of Defense's DOD budget request for command, control and communications, or C3.

In order to put my testimony in proper perspective, I will first provide you with an overview of the total fiscal year 1994 budget request for Command, Control, Communications and Intelligence, or the C3I programs. I will then provide you with an overview and additional detail concerning the C3 program.

Mr. Keith Hall, Deputy Assistant Secretary of Defense for Intelligence, will follow me and will discuss details of the Tactical Intelligence and Related Activities, or TIARA, program.

C3I encompasses five major areas: TIARA, the National Foreign Intelligence program, information technology programs to include our Corporate Information Management efforts, the Department's Counterintelligence and Security Countermeasures—CI&SCM—activities, and our C3 programs. When these five areas are combined, the bottom-line fiscal year 1994 budget request for C3I programs totals ———.

Within the ——— $16 billion is requested in fiscal year 1994 for C3 programs which fall into the Strategic C3, Theater and Tactical C3, and Defense-wide C3 mission areas.

The Strategic C3 systems that we have developed and maintained over the past 40 years have been the key ingredient in sustaining the credibility of our nuclear deterrence. These systems are the cornerstones of our future C3 architectures, and they become even more vital as the numbers of our weapons and delivery systems continue to decline.

As we look to the future, the threats that we will face are possibly more stressing than ever. Effective warning and assured command and control are necessary to deter the use of not only nuclear weapons, but also the use of chemical and biological weapons and to serve as a hedge against the emergence of an overwhelming conventional threat. To operate and support needed improvements in our strategic C3 systems, a total of $5.1 billion is requested in fiscal year 1994.

Theater and tactical C3 systems provide military commanders with the facilities and communications equipment necessary for managing conventional forces. The objectives of theater and tactical C3 systems is to ensure secure, survivable, interoperable C3 systems for joint and combined operations.

Continuing the emphasis on strengthening our ability to rapidly respond to regional crises, effective theater and tactical C3 capabilities are extremely critical especially as the size of the force structure decreases. For our theater and tactical C3 programs, we are requesting $5.5 billion in fiscal year 1994 to operate, maintain and improve our C3 capabilities.

The initiatives included within the Defense-wide mission area provide long-haul and common user communications, base level information infrastructure modernization, support for C3 mobilization and national level communications programs, military satellite communications architectures and standards, and spectrum policy and management.

Also included in this area is the Defense Information System Network (DISN) which is a critical component of the Defense Information Infrastructure.

DISN will provide the global information transport platform and network value-added services that can respond to national security and defense needs under all conditions and in the most efficient manner. We are requesting $5.4 billion in fiscal year 1994 for the broad range of communication services provided by our defense-wide C3 systems.

BUDGET REQUEST

The $16 billion requested for C3 programs in fiscal year 1994 is $1.5 billion less than what was presented last year for fiscal year 1994 as part of the fiscal year 1993 amended budget submission. This reduction reflects the restructuring of several C3 programs in response to programmatic adjustments, changes in the threat to our national security interests, and accelerated reductions to our force structure over the past year.

To support this restructuring, the following C3 programs were significantly scaled back or deferred in the previous administration's budget proposal:

One, E–3 Airborne Warning and Control System Modications;
Two, Army Data Distribution System;
Three, Forward Area Air Defense Ground-Based Sensor; and
Four, Tactical Air Control System Improvements.

President Clinton's fiscal year 1994 request has reduced the budget even further by adjusting the following C3 programs:

One, Military Strategic, Tactical and Relay Satellite (Milstar);
Two, E–2C modifications;
Three, Maneuver Control System;
Four, Navstar Global Positioning System, GPS; and
Five, Air Defense C3.

Even with these large programmatic reductions, the fiscal year 1994 budget request still reflects a sound, cohesive overall program for sustaining our current C3 capabilities. It also supports a balanced acquisition program to provide the C3 capabilities which will be needed in the future.

The next series of charts outlines the major C3 RDT&E procurement programs contained in the fiscal year 1994 budget request for C3. These programs represent the core of our acquisition efforts, and they support improvements across all of the C3 mission areas.

I will now update the committee on the details and status of several C3 programs of current interest.

MILSTAR PROGRAM

Milstar is the backbone of the DOD's MILSATCOM architecture. The Milstar system will provide a survivable, jam-resistant, worldwide, and secure communications system to meet the needs of the President and Commanders-in-Chief for commanding and controlling both our tactical and strategic forces.

The program's current status is that the fiscal year 1993 program was highlighted by the successful Defense Acquisition Board review of the restructured Milstar program. The approved program includes a four-satellite constellation to provide mid-latitude coverage, with incorporation of a medium data rate payload on satellite No. 3 and beyond.

The design work is proceeding on the medium data rate payload toward a fiscal year 1994 critical design review. Requirements for high-latitude connectively will be provided by a Milstar polar adjunct program which will be reviewed during fiscal year 1994.

The first Milstar satellite was delivered to the government in February 1993 and is awaiting Titan Centaur availability to support a scheduled ——— launch. Delivery ——— of satellite No. 2 is planned for ———.

DEFENSE SATELLITE COMMUNICATIONS SYSTEM

The Defense Satellite Communications System, DSCS, is also an integral part of DOD's MILSATCOM architecture. The DSCS system includes a space segment of five fully capable and several partially capable satellites, a terminal segment of approximately 635 fixed, transportable, and mobile terminals, and a control segment of five fixed DSCS Operations Control Centers.

Today's space segment is a mix of older DSCS II satellites and more capable DSCS III satellites. Eight DSCS III satellites already procured are in storage awaiting launch when needed. However, based on current projections, replenishment satellites will be required after the year 2000 to continue DSCS or other follow-on service for the future.

Another critical space-based C3 capability is for the warning and assement of ballistic missile attack. Today we have the Defense Support System which has served us well, but which has inherent limitations that will require its replacement.

FOLLOW ON EARLY WARNING SYSTEM (FEWS)

The replacement system Follow on Early Warning System (FEWS) will consist of five satellites in inclined orbits. FEWS will use infrared technology to detect ballistic missiles in boost phase similar to DSP, but it will be more sensitive to allow detection of future tactical ballistic missile threats, and will provide more accurate information regarding the origin and destinations of ballistic missile launches. FEWS will also provide global coverage ———.

The satellite will provide sensor messages directly to the user without depending on ground station processing. In fiscal year 1994, the program will complete its two-year demonstration/validation phase and is expected to enter the Engineering and Manufacturing Development phase upon approval of the Defense Acquisition Board in July 1994.

The first launch is scheduled in ——— leading to an initial operational capability with three satellites in ——— and a full operational capability in ———.

NAVSTAR GPS

The Navstar GPS system is a space-based positioning and navigation system designed to provide worldwide, all-weather, passive, three-dimensional position, velocity and timing data to a variety of U.S. and allied military users.

GPS provides a military accuracy of 16 meters and a variable civilian accuracy set to 100 meters in peacetime. GPS proved for enormous military value in Desert Storm in all phases of combat operations where it was largely responsible for the swiftness and precision of our force movements and for the relative safety with which they were conducted. The full operational constellation of 24 satellites is scheduled for 1994.

SINGLE CHANNEL GROUND AND AIRBORNE RADIO SUBSYSTEMS (SINCGARS)

The SINCGARS VHF–FM combat net radio communications system is the primary means of commanding and controlling infantry, armor, airborne, and artillery units on the modern battlefield. Its frequency-hopping, jam-resistant capability offsets the current threat of jamming techniques used against the existing family of fixed-frequency radios.

A number of the SINCGARS radios were used in Desert Storm where the desert environment did not degrade its reliability or performance. The fiscal year 1994 procurement program will provide 21,636 additional ground radios and 926 airborne radios.

JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)

The Joint Tactical Information Distribution System (JTIDS) is a family of advanced, multi-functional radio systems which provides information distribution, position location and identification capabilities for application in military operations.

JTIDS proved its military worth in Desert Storm by improving air defense situational awareness by netting E–3 AWACS aircraft to E–8 JSTARS aircraft and to available ground units.

The JTIDS Class 2 program is a communications terminal which will be interoperable with our allies. The Defense Acquisition Board has approved the Low Rate Initial Production of JTIDS Class 2 terminals, and in fiscal year 1994, it is expected that the DAB will make a Full Rate Production decision for the Army's, Navy's and Air Force's terminals leading to a contract award.

In conclusion, I ask for the committee's support of the fiscal year 1994 budget request for C3 programs. Within the framework of reduced defense spending, we have structured this budget to allow a high degree of responsiveness to regional contingencies, to reflect continuing concerns about proliferation of nuclear weapons, and to address other challenges that we will face in the 1990s and beyond.

The Congress has consistently supported the role of C3 in our national defense by providing the resources necessary to develop and field critically needed capabilities, and we ask for your continued support for the C3 programs contained in this year's budget.

These programs will support the Department's ability to deal with the increasing pace of change and the emerging dangers associated with the national security environment.

Thank you, Mr. Chairman. I would now like to turn it over to Mr. Hall.

Mr. MURTHA. Mr. Hall.

SUMMARY STATEMENT OF MR. HALL

TACTICAL INTELLIGENCE

Mr. HALL. Mr. Chairman and members of the Committee, it is a pleasure for me to be here today to testify on behalf of the Department's fiscal year 1994 tactical intelligence activities budget.

My statement has been made part of the record. In front of you are charts to describe the tactical intelligence-related programs. If you turn to page 2, you will find the definition of tactical intelligence programs.

These are the programs outside the purview of the Director of the CIA that are aimed at meeting the direct operational requirements of our military commanders for information on the battlefield.

They also include the resources necessary to train military personnel for intelligence duties and all of the reserve personnel that constitute a readiness reserve force to augment our intelligence capability in wartime, and it includes a variety of programs in the R&D area to improve these capabilities.

Specifically excluded from tactical intelligence programs are those sensor systems that are an integral part of a weapon system for purposes of targeting and surveillance such as an F–15 radar which some people would point out is the senor system so integral to the F–15 platform that it is not counted as TIARA.

The tactical and related activities budget, which I am discussing this morning does not include everything that the Department needs for the planning and conduct of military operations.

Many of the programs that are financed within the National Foreign Intelligence Program (NFIP) under Ambassador Woolsey are integral and very important to the conduct of military operations particularly and they relate to the collection of information in peacetime, the in-depth information on order of battle of opposing military forces, the type equipment they have, the training they conduct that is vital to the planning of military operations.

To this end, we are attempting to develop in conjunction with CIA a seamless approach to the intelligence budget, while keeping the two entities separate between tactical and national, provide a command framework to allow us to review programs across the two entities through common definitions and procedures.

I would note in this regard that for the first time, both the Deputy Secretary, Dr. Perry, and Ambassador Woolsey this summer will conduct joint programs reviews that take particular functions and will conduct a single review across all national and tactical programs.

The third page of the charts has some of the factors that need to be considered when looking at tactical programs.

There has been much talk in the press about a ——— intelligence budget. That is arrived at by taking the ——— or so requested by Ambassador Woolsey and adding it to ———.

The two programs are really quite different in how they are managed and constituted. Tactical intelligence programs are an aggregation of activities within the Department that seek to identify all the things going on in the services and the defense agencies that have an intelligence-like application or related activities.

There is no single program manager for tactical intelligence activities. They compete with the force structure within the services and the funding for weapon systems

At the end of that competition, we add up all the funds allocated towards intelligence-type tactical functions in the department. We aggregate them and report them as tactical intelligence-related activities.

So it is different from the national intelligence program where there is a predetermined top line that is determined by OMB, provided to Ambassador Woolsey after discussion with the Secretary, and a program is put together in conformance with that top line.

There is no predetermined top line for TIARA. TIARA programs, tactical intelligence programs, increase or decrease in any given year as a result of the priorities set by the military services and the Office of the Secretary of Defense for the programs that constitute TIARA.

The actual aggregation of tactical intelligence programs was something directed by this committee, and I think it is a good move to provide visibility to these disparate programs. It provides a single place where one could take a look across services and across programs at the various activities that the services are engaging in in the tactical intelligence arena. It allows us, as well as you, the opportunity to compare programs and look for areas where there is unnecessary duplication across the services and provide emphasis on areas that are gaps in our capabilities in the total force structure.

TACTICAL INTELLIGENCE BUDGET REQUEST

This is a place that involves approximately $400 million of the counterdrug program of the DOD for the interdiction and monitoring functions that involve the various sensors that are brought to bear to that mission.

Page 4, you will find a pie chart listing the distribution of the tactical intelligence and related activities budget request for fiscal year 1994.

It totals just over ——— and this, I will note, is an increase of ——— from the amounts that were estimated for fiscal year 1993.

The reason for the increase involves some accounting changes in defense programs, the identification of approximately ——— in activities that are being identified as tactical intelligence-related activities for the first time.

There are increased funds to provide a fund to acquire ——— and use by DOD and a variety of other programs.

If you turn to page 5, you would find the manpower request, the personnel request for individuals involved in the tactical intelligence-related activities totalling ——— personnel in the DOD, mostly military personnel.

I would note that this is a decrease of some 5 percent from the number that were engaged in these activities in fiscal year 1993.

The following charts, seven charts that provide a summary of the seven major functional areas in the tactical intelligence related activities area covering the whole ——— may I suggest that members of the committee take a look at those.

[CLERK'S NOTE.—The charts are classified and are in the committee's files.]

I think it provides a good summary of all these activities. The Department has appreciated the strong support this Committee has provided in the past to these very important activities that provide us the intelligence support needed by our military commanders. With that, Mr. Chairman, we would be pleased to take your questions, if any. Thank you.

Mr. MURTHA. Thank you, gentlemen.

[The joint statement of Dr. Quinn and Mr. Hall follows:]

DEPARTMENT OF DEFENSE

OPENING STATEMENT

BY

DR. THOMAS P. QUINN
DEPUTY ASSISTANT SECRETARY OF DEFENSE
(STRATEGIC & TACTICAL C3)

AND

MR. KEITH R. HALL
DEPUTY ASSISTANT SECRETARY OF DEFENSE
(INTELLIGENCE)

BEFORE THE
DEFENSE SUBCOMMITTEE
HOUSE APPROPRIATIONS COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES

May 11, 1993

"COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE (C3I)"

I. INTRODUCTION

Mr. Chairman and members of the Committee, it is our privilege to present the Department of Defense's (DoD's) budget request for Command, Control, Communications, and Intelligence (C3I).

In order to put our testimony in proper perspective, I will first provide you with an overview of the total FY 1994 budget request for the C3I programs. I will then provide you with an overview and additional detail concerning the C3 program. Mr. Keith R. Hall, Deputy Assistant Secretary of Defense for Intelligence, will follow me and will discuss details of the Tactical Intelligence and Related Activities (TIARA) program.

II. THE FY 1994 C3I BUDGET REQUEST

C3I encompasses five major areas: Tactical Intelligence and Related Activities (TIARA), the National Foreign Intelligence Program (NFIP), information technology programs to include our Corporate Information Management (CIM) efforts, the Department's Counterintelligence and Security Countermeasures (CI&SCM) activities, and our Command, Control and Communications (C3) programs. When these five areas are combined, the bottom-line FY 1994 budget request for C3I programs totals .

III. COMMAND, CONTROL AND COMMUNICATIONS (C3) OVERVIEW

Within this total, the amount requested for C3 programs in FY 1994 is $16.0 billion. This amount is $1.5 billion less than presented last year for FY 1994 as part of the FY 1993 Amended Budget Submission. This reduction reflects the restructuring of several C3 programs in response to programmatic adjustments, changes in the threat to our national security interests, and accelerated reductions to our force structure over the past year. To support this restructuring, the following C3 programs were significantly scaled-back or deferred in the previous administration's budget proposal:

- E-3 AWACS Modifications,
- Army Data Distribution System,
- Forward Area Air Defense Ground Based Sensor, and
- Tactical Air Control System Improvements.

President Clinton's FY 1994 defense budget adds to this list by adjusting the following C3 programs:

- MILSTAR,
- E-2C Modifications,
- Maneuver Control System,
- Navstar Global Positioning System (GPS), and
- Air Defense C3.

IV. C3 BUDGET AREAS

The $16.0 billion requested in FY 1994 for C3 programs may be further divided into the three major C3 mission areas: Strategic C3, Theater and Tactical C3, and Defense-wide C3.

The Strategic C3 systems that we have developed and maintained over the past forty years have been the key ingredient in sustaining the credibility of our nuclear deterrence. These systems are the cornerstones of our future C3 architectures, and they become even more vital as the numbers of our weapons and delivery systems continue to decline. As we look to the future, the threats that we will face are possibly more stressing than ever. Effective warning and assured command and control are necessary to deter the use of not only nuclear weapons, but also the use of chemical and biological weapons and to serve as a hedge against the emergence of an overwhelming conventional threat. Despite this evolving threat, we are going to have to do with less.

The FY 1994 budget request for Strategic C3 continues to improve satellite warning capabilities and upgrades facilities with necessary command and control systems for national missile defense. To support the Secretary of Defense's decision that airborne command and control operations for strategic nuclear forces will be consolidated in the Navy's E-6A platforms, funding has been provided for this consolidation on-board the TACAMO aircraft. This capability will enable us to deactivate by 1997, the entire EC-135 fleet which performs communications relay and serves as CINC airborne command posts. The first Milstar communications satellite will be launched this year providing critical, protected communications links that are highly resistant to jamming and nuclear effects for both tactical and strategic forces. With these efforts, we continue to make progress to ensure that our strategic C3 systems maintain assured command and control of our nuclear forces. A total of $5.1 billion is requested in FY 1994 to improve and to operate our strategic C3 systems.

Theater and tactical C3 systems provide military commanders with the facilities and communications equipment necessary for managing conventional forces. The objective of theater and tactical C3 systems is to ensure secure, survivable, interoperable C3 systems for joint and combined operations. Continuing the emphasis on strengthening our ability to rapidly respond to regional crises, effective theater and tactical C3 capabilities are extremely critical especially as the size of the force structure decreases.

Currently, over 50,000 Single Channel Ground and Airborne Radio Systems (SINCGARS) have been delivered to provide the primary means of command and control for combat and fire support units. The NAVSTAR GPS is a highly accurate, space based, all weather, passive, navigation, positioning, and timing system, and is expected to reach full operational capability during FY 1994. The Joint Tactical Information Distribution System (JTIDS) program will provide a high capacity, voice and data, jam resistant, secure integrated communications navigation and identification system for joint air surveillance/defense that is interoperable with NATO. The JTIDS program plans to award a full rate production contract for Army, Navy, and Air Force terminals in FY 1994. For these and other theater and tactical C3 programs, we are requesting $5.5 billion in FY 1994 to operate, maintain, and improve our C3 capabilities.

The initiatives included within the Defense-wide mission area provide long haul and common user communications, base level information infrastructure modernization, support for C3 mobilization and national level communications programs, military satellite communications (MILSATCOM) architectures and standards, and spectrum policy and management. Also included in this area is the Defense Information System Network (DISN) which is a critical component of the Defense Information Infrastructure. DISN will provide the global information transport platform and network value added services that are responsive to national security and defense needs under all conditions in the most efficient manner, while maintaining transparency to its intelligence, command and control, and business community users. We are requesting $5.4 billion in FY 1994 for the broad range of communication services provided by our defense-wide C3 Systems.

I will now update the committee on the details and status of several C3 programs of current interest.

V. UPDATE ON KEY C3 PROGRAMS

A. Milstar Satellite Communications System

Milstar is the backbone of the Department of Defense MILSATCOM architecture and will provide assured communications to crucial tactical and strategic users. The Milstar system will provide a survivable, jam-resistant, world-wide, secure communications system to meet essential communications needs of the President and Commanders-in-Chief to command and control both our tactical and strategic forces.

As for the program's current status, the FY 1993 program was highlighted by the successful Defense Acquisition Board review of the restructured Milstar program. The approved program includes a four satellite constellation to provide mid-latitude coverage, with incorporation of a medium data rate payload on satellites #3 and beyond. The design work is proceeding on the medium data rate payload toward an FY 1994 critical design review. Requirements for high latitude connectivity will be provided by a Milstar Polar Adjunct program which will be reviewed during FY 1994. The first Milstar satellite was delivered to the government in February 1993 and is awaiting Titan Centaur availability to support a
. Delivery and launch of satellite #2 is planned for FY 1994.

B. Defense Satellite Communications System (DSCS)

The DSCS is also an integral part of DoD's MILSATCOM architecture. The DSCS system includes a space segment of five fully capable and several additional partially capable satellites, a terminal segment of approximately 635 fixed, transportable, and mobile terminals, and a control segment of five fixed DSCS Operations Control Centers. Today's space segment is a mix of older DSCS II satellites and more capable DSCS III satellites. Eight DSCS III satellites have already been procured and are in storage awaiting launch when needed. Based on current projections, replenishment satellites will be required after the year 2000 to continue DSCS or other follow-on service for the future. These follow-on service alternatives will be addressed during FY 1994 and FY 1995.

C. UHF Follow-on Satellite System

The UHF Follow-on (UFO) satellite constellation will provide replacement satellites for the FLTSAT and LEASAT communications satellites. As the existing constellations reach the end of their expected operational lifetime, UHF satellites will be deployed to maintain worldwide DoD UHF communications capability. A limited Extremely High Frequency (EHF) anti-jam capability will also be installed commencing with the fourth satellite. The Joint Chiefs of Staff requirement is for nine satellites in orbit. A contract was awarded in July 1988 for the first satellite. Although we did encounter a launch failure in the first satellite in March, we are looking forward to getting on with constellation establishment as early as July with the possible launch of the next satellite assuming satisfactory identification and resolution of the Atlas booster malfunction.

D. Follow-on Early Warning System (FEWS)

Another critical spaced based C3 capability is for the warning and assessment of ballistic missile attack. Today we have the Defense Support Program (DSP) which has served us well, but which has inherent limitations that will require its replacement.

. FEWS will use infrared technology to detect ballistic missiles in boost phase similar to DSP, but it will be more sensitive to allow detection of future tactical ballistic missile threats, and will provide more accurate information regarding the origin and destinations of ballistic missile launches.

. In FY 1994 the program will complete its two-year Demonstration/Validation phase and is expected to enter the Engineering and Manufacturing Development phase upon approval of the Defense Acquisition Board (DAB) in July 1994.

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E. Navstar Global Positioning System (GPS)

Navstar GPS is a space-based positioning and navigation system designed to provide worldwide, all weather, passive, three-dimensional position, velocity and timing data to a variety of US and allied military users. GPS provides a military accuracy of 16 meters and a variable civilian accuracy set to 100 meters in peacetime. GPS proved of enormous military value in Desert Storm in all phases of combat operations where it was largely responsible for the swiftness and precision of our force movements and for the relative safety with which they were conducted. The full operational constellation of 24 satellites is scheduled for 1994.

F. Joint Tactical Information Distribution System (JTIDS)

The JTIDS program is a family of advanced multifunctional radio systems which provides information distribution, position location and identification capabilities for application in military operations. The JTIDS Class 2 program is a communications terminal which will be interoperable with our allies. JTIDS proved its military worth in Desert Storm by providing air defense situational awareness by netting the AWACS (E-3) aircraft to the JSTARS (E-8) aircraft and to available ground units. The Defense Acquisition Board (DAB) has approved the Low Rate Initial Production of JTIDS, and in FY 1994, it is expected that the DAB will make a Full Rate Production decision for the Army, Navy, and Air Force terminals leading to a contract award.

G. Forward Area Air Defense Command and Control System (FAAD C2)

The FAAD C2 system is the automated command and control system for the Air Defense Battlefield Functional Area of the Army Tactical Command and Control System. It is a network of computers and associated software that is intended to integrate the various air defense weapons and sensors to provide air track targeting data and weapons cuing information in support of the FAAD battalion mission of protecting the forward Division maneuver units from the enemy low altitude air threat. Block I will provide early fielding of an interim system to Light and Special Divisions. Block II will provide Heavy Divisions with enhanced early warning, alerting, and weapon cuing capabilities and will allow more engagements with better situational awareness and at longer ranges. Block III will provide enhanced functionality and will add the Joint Tactical Data Distribution System for even faster data distribution and the capability to net all sensors for a common picture of the battlefield. In FY 1994, we will continue fielding of Block I and continue with software development and technical testing for Block II.

H. Single Channel Ground and Airborne Radio System (SINCGARS)

The SINCGARS VHF-FM combat net radio communications system is the primary means of commanding and controlling infantry, armor, airborne, and artillery units. Its frequency-hopping jam resistant capability will offset the current threat of jamming techniques used against the existing family of fixed frequency radios. It will assist commanders in conducting the battle on the modern battlefield. A number of the SINCGARS radios were used in Desert Storm where the desert environment did not degrade reliability or performance. The FY 1994 procurement program will provide 21,636 additional ground radios and 926 airborne radios.

VI. TIARA PROGRAMS

The Amended FY 1994 President's Budget Request for TIARA provides an effective capability that will meet the Department's current and future needs. It is pointed out that TIARA is an aggregation of many individual programs. It is not a fenced program with a predetermined top line like the NFIP. It is important to note that each of these TIARA programs and activities contained within the DoD Budget has successfully competed with programs of all the other mission areas of the Department at a time of rapidly declining manpower and dollars. The result has been that these Defense intelligence programs and activities represent the most essential capabilities needed by our military forces.

The TIARA portion of the Amended FY 1994 President's Budget totals , an amount that is than projected by earlier budget forecasts for FY 1994. Further, this amount includes, in part, new additions of existing programs to the TIARA aggregation, not increases to existing programs, such as for example, Advanced Research Projects Agency (ARPA) projects recently identified with intelligence applications, and substantial Air Force support costs not previously reported for reconnaissance programs.

Over the last year the Department conducted a thorough programmatic and budgetary review of TIARA, resulting in significant realignment of resources to fix critical shortfalls. Resources were added to fully fund ; to fund LANDSAT upgrades for support of critical Defense mapping, charting, and geodesy (MC&G) needs; and to support improvements and the better integration of reserve intelligence capabilities into the overall force structure.

For this presentation, TIARA has been aggregated into seven general areas to provide a broad frame of reference. These include:

- Intelligence Forces
- Airborne Reconnaissance and Surveillance
- Surveillance and Target Acquisition
- Analysis and Exploitation
- Research and Technology
- Defense-Wide Support
- Tactical Warning

A. Intelligence Forces

The overall TIARA force structure of

continuing reductions begun in FY 1991 which have totaled 14% when normalized for changes to TIARA content. This reflects the overall decline of the military forces which would be expected in light of the close alignment of the TIARA assets to tactical forces. The resources in this aggregation provides the TIARA manpower and training resources for strategic, operational and tactical intelligence support for U.S. military forces, permitting a seamless infrastructure to support the many intelligence activities required for tactical needs.

B. Airborne Reconnaissance and Surveillance

Funding for this category is

. The Department is at a critical stage, where old systems, such as the RF-4Cs are phasing out, while new systems are in various stages of being phased in. Over the next several years new systems, such as the Joint Surveillance/Target Attack Radar System (Joint-STARS), the Navy's Battle Group Passive Horizon Extension System (BGPHES), the Air Force's Follow-On Tactical Reconnaissance System (FOTRS), the Navy/Marine Corps reconnaissance capable F/A-18s, and Unmanned Aerial Vehicles (UAVs) for all the Services along with the multi-Service ATARS imagery system will be integrated into the force structure and provide an effective tactical intelligence support capability. They will permit imagery and SIGINT collection across the breadth and depth of the battle area. Guardrail Common Sensor, an Army SIGINT platform that can attain accuracies that support targeting, already is being placed into the force structure. However, we are in transition so that the budget request reflects sustaining older systems while developing/procuring new needed capabilities. Therefore, because of current and likely future operations, we must maintain current essential capabilities, such as the RC-135 and EP-3 SIGINT systems. The Department will shortly forward a position to the Congress, as requested, on these two systems.

C. Surveillance and Target Acquisition

This category addresses collection capabilities that are ground or sea-based. Further, we have included all Counterdrug activities to permit overview of the total program in one place rather than spread throughout the other categories. Total FY 1994 funding is is for Counterdrugs. With requirements changing, funding for Anti-Submarine Warfare initiatives has decreased substantially

. The Army will procure in FY 1994 the Enhanced TRACKWOLF, a tactical High Frequency Direction Finding (HFDF) collection system, that will also be designed to be interoperable with and be the mobile arm of the national HFDF network. TIARA Counterdrug resources primarily support current activities. One new element is the Airborne Reconnaissance Low aircraft system that is just being deployed to USSOUTHCOM that will be able to collect both SIGINT and imagery. The platform is a derivative of a common commercial aircraft, permitting low profile missions in the area.

D. Analysis and Exploitation

The funding request for this category is . There are a series of all-source analytical capabilities being developed or fielded that will support the rapid analysis and exploitation needed by operations for targeting and situation assessment. They include the Army's All Source Analysis System (ASAS), the Marine Corp's Intelligence Analysis System (IAS), the Air Force's Intelligence Correlation Module (ICM), and the Navy's Tactical Command System-Afloat (NTCS-A) capability. All systems/capabilities will continue fielding in FY 1994 along with ongoing research and development for improved capabilities. Connectivity with the national all source community will be primarily through the Joint Deployable Intelligence Support System (JDISS) terminal funded in both DIA General Defense Intelligence Program (GDIP) and TIARA accounts. Interoperability will be assured through implementation of DoD standards, thereby creating an integrated national-to-tactical network.

Another capability funded in the FY 1994 program is the Joint Services Imagery Processing System (JSIPS) which is being developed for all four Services to permit

. This will allow timely exploitation of critically needed imagery collected by national and tactical systems.

E. Research and Technology

The overall program for FY 1994 is . Included are the surveillance, acquisition, tracking, and kill assessment elements of the Strategic Defense Initiative Organization (SDIO) which will bring advanced technologies to bear for Theater Missile Defense (TMD) as well as National Missile Defense (NMD). The Advanced Research Projects Agency's (ARPA) Advanced Targeting Technology developments for WAR BREAKER will develop and demonstrate sensor and processing technologies to support prosecution of time critical mobile and fixed targets, such as mobile surface-to-air missiles, command posts, or tanks and artillery. Also, ARPA's THORN SHIELD program was added to TIARA this year in recognition of its potential intelligence support capabilities. The Defense Support Project Office (DSPO) under the Airborne Reconnaissance Support Program (ARSP) is developing a number of advanced reconnaissance sensor capabilities that will permit synoptic all weather, day/night coverage, rapid retasking, interoperability, cross sensor cuing, and rapid reporting. Finally, Foreign Material Acquisition and Exploitation activities for FY 1994 reflect a one time increase to seize the opportunity to purchase advanced weapons from countries of the former Soviet Union while the political climate permits.

F. Defense-Wide Support

Programs in this category total approximately . Over the years, the Department has shared in the development funding of national systems to meet tactical requirements and has built Tactical Exploitation of National Capabilities (TENCAP) systems to provide near-real-time national collection for the tactical commander. As an example, the TIARA FY 1994 Amended President's Budget request includes funding for

which is essential in meeting future Operational ELINT collection needs in support of military forces. The TIARA funding will ensure that tactical requirements are included in design and development. DoD, in a coordinated effort with National Aeronautics and Space Administration (NASA), is procuring LANDSAT 7. TIARA funding will include procurement of the High Resolution Multi-Spectral Imager (HRMSI) capability which will support DMA production needs, significantly improving the Department's capabilities in this demanding area. Supported also is the Defense Meteorological Satellite Program providing essential meteorological information in support of national, strategic, theater and tactical operations. Defense Mapping Agency world-wide operations, totaling nearly , are also included in this category.

G. Tactical Warning

Activities in this category total . Included are sustainment of Defense Support Program (DSP) which will encompass advanced procurement of the last as well as procurement of the sensor for . Development of the replacement for the DSP, the Follow-On Early Warning System (FEWS), which is reported to the Congress under TIARA, was described previously. Efforts also continue through the SPACETRACK program to maintain and improve our space tracking capabilities of all manmade objects in space. Finally, the NFIP portion of the Nuclear Detection System (NDS) was functionally transferred to Air Force TIARA to consolidate and improve management and development of the NDS effort.

VII. CONCLUSION

(U) In conclusion, we ask for the Committee's support of the FY 1994 budget request for C3I programs. Within the framework of reduced defense spending, we have structured this budget to allow a high degree of responsiveness to regional contingencies, to reflect continuing concerns about proliferation of nuclear weapons, and to address other challenges that we will face in the 1990's and beyond. The Congress has consistently supported the role of C3I in our national defense by providing the resources necessary to develop and field critically needed capabilities, and we ask for your continued support for the C3I programs contained in this year's budget. These programs will support the Department's ability to deal with the increasing pace of change and the emerging dangers associated with the national security environment.

Mr. MURTHA. I have a great interest in intelligence. I was an S-2 with the First Marines from 1966 to 1967. I developed a system of trying to learn the intricacies of the VC. The first thing I did was pick the brightest people with GCT's of 150 or so out of the regiments that had some experience and bring them up to intelligence. We had some success, 50 percent of our reports were accurate. At least we could prove they were accurate.

Sometimes we knew they were accurate, but because of troop movement we couldn't confirm the accuracy of the information.

One time, after a number of inaccurate reports, I told the regimental commander that the VC was going to rocket the airfield. He said, "How do you confirm this? Your reports have been so inaccurate." I said, "The houses of ill repute are being evacuated."

Mr. YOUNG. How did you know that?

Mr. MURTHA. My agents were always at work. The next day they rocketed the airfield. So we had good intelligence and it was accurate intelligence. As a matter of fact, my master gunnery sergeant gave me a practical saying "Victory is complete knowledge of the enemy."

No question, in Vietnam intelligence was what it was all about. I almost cried when they assigned me to intelligence. I was an operational guy.

That is true in most wars. If you know where the enemy is and when they are going to be there, you have an advantage. The work you do is important to our national security, but the real experts in this Committee on intelligence are Mr. Dicks and Mr. Young and with that I turn to questions from Mr. Dicks.

INTELLIGENCE MANPOWER

Mr. DICKS. Let me ask you this: On your charts—the chairman and I had a question about personnel—you show what to the layman would look like an extraordinary number of people, chart 8: Air Force ——— the Navy, ——— the Army, ——— defense agencies, ———.

You have roughly close to ———.

I am told that support is included in the unit. You have an intelligence unit, and you have people who do other things that are scored to that unit. How is that structured?

Mr. HALL. What you find aggregated, again for purposes of visibility for the Congress and the Department of the number of people engaged in intelligence activities is a mixture of functions.

First, you have a sizable slice, ——— requested in 1994 for personnel. ——— of that are for intelligence engaged in the direct collection and operation of intelligence systems.

There is another ——— or so that is involved in staff support. For example, each Army division, each Army corps, each numbered Air Force and so forth has a staff of officers and enlisted personnel that provide intelligence support to the command and that portion of each of those staff elements is aggregated into the tactical intelligence program and we add those up and they are reflected in the number that you see.

So approximately ——— is staff support for Army divisions and corps.

There is another ——— in the dollar total reflected for the intelligence personnel involved in the reserve programs, very heavy in the Army, but also representing significant numbers of personnel in the Marines, the Air Force and the Navy.

Finally, there is ——— associated with the personnel involved throughout the military services and defense agencies for the training program.

Mr. DICKS. How much was that again?

Mr. HALL. ——— So when you look at the way we count personnel the ones that would be the mainstream intelligence personnel represents maybe two-thirds or less of the total number that you see of the ——— and the rest are individuals involved in staff support, reserve or training activities.

Mr. DICKS. With the downsizing of the military, are you going to take similar reductions in personnel? What is the 17.5 percent over 5 years?

Mr. HALL. Absolutely. As a matter of fact, I think that the reductions in the tactical intelligence personnel category are likely to amount to higher than 17.5 percent.

TIARA strength from 1990, the individuals available in Desert Storm that are in this category, and compare it to our 1994 plans, we are down by approximately 14 percent at this time.

As the force structure continues to decline, those intelligence staff elements that are counted in this category, in some cases entire units, when a division goes, the intelligence battalion of the division goes with it. So you will continue to see a continued decline in the tactical intelligence force structure.

Mr. DICKS. What about the Reserve and Guard?

Mr. HALL. Those are also declining commensurate with the type reductions that are being taken elsewhere in the Department.

In some cases, the Reserve and Guard are eliminating vacant billets. They were approximately 4,000 billets reflected as a reduction in the Navy cryptologic reserve activities.

These are the Reserve airmen and women that provide signals intelligence activities and support. And many of those billets, because they involve language skills and other difficult categories to fill were vacant and you will see a reduction in that category, but the Reserves and Guard are taking reductions in the personnel area as well commensurate with general reductions that the Department has proposed in those areas.

TECHNOLOGICAL IMPACT ON MANPOWER

Mr. DICKS. Will improved technology offset your loss of manpower? Are you still going to have new technologies that you are going to be able to utilize? Is that going to help?

Mr. HALL. I believe so. That has to be offset by the fact that the information age is providing new opportunities to deliver timely intelligence support to intelligence forces and these new opportunities require additional personnel to accommodate.

So even with the tremendous improvement in our information handling systems and the technology that that affords and the ability to do many things that used to be done by personnel automatically in terms of correlation, just the sheer explosion in the type of information that we can collect on the battlefield coupled with the communications technology that allows us to deliver it to the front lines. I think as we capitalize on that technology, it will require a certain degree of increased personnel perhaps using the offsets of the reduction that I have mentioned in order to accommodate and capitalize on the data.

Mr. DICKS. One of the bullets on page 1 talks about providing an intelligence Reserve.

Mr. HALL. The office has had a very careful look over the past year, in part prompted by the Congress, led by this committee, to look at the ways in which Reserves might be better utilized.

The principal focus of the Reserve in the past has been aimed at its mobilization functions in times of war. When you look at intelligence duties, there are many times that lend itself to Reserve-type activities in the changed world.

There are many countries that we now have to track, but not on a minute-by-minute basis anymore. We believe that this changed world environment lends itself to the provision and capitalization of the Reserves in providing support to the active component.

These same activities provide training for the Reserves as they prepare for a mobilization assignment, so in the fiscal year 1994 budget, we have modest initiatives to provide additional mandate support for the Reserves for active duty, support DIA, NSA and unified and specified commands.

A fairly modest, $1.5 million, for example, provides up to 600 mandays of effort in augmentation of the intelligence functions of the active component.

So it provides a very cost-effective way of addressing some of the targets that are now dispersed throughout the world.

We have also included some funds to procure ADP equipment for Reserve units so that as the Reservists come in on the weekends, they can log into a national intelligence data base, receive electronic mail of the information gathered relative to the area that they are studying since their previous time in on weekends, and allow them to work much the same way that an active component would work.

RESERVE SUPPORT TO INTELLIGENCE

Mr. MURTHA. Is that structured in a unit structure or outside the unit—for instance, will an individual unit be integrated to a regular unit when it is called on active duty, or how does it work?

Mr. HALL. There is a mixture of intelligence personnel. There are units, for example, using the Army example again, if you have a Reserve division, that Reserve division will have an intelligence battalion and that will be called up as a unit.

There is a host of ready Reserve personnel who are designated as individuals upon mobilization to come in and fill specific slots throughout the active component force. The ADP connectivity that I spoke about is aimed at Reserve training Centers so that we can set up a regional location where reservists from a variety of services might be able to come and look into the data bases of NSA or DIA.

It is modeled after a Navy program currently under way that provides that type capability.

The last item with regard to our initiatives on the Reserves is legislation that we are in the process of clearing through OMB to provide an improve incentive for language proficiency of the Reserves.

At the present time, we are able to provide on a prorated basis proficiency pay for language qualified Reserve personnel as a proportion of the amount that the active component receives.

It amounts to like $13 a month because we can only take two-thirtieth of the amount that an active person receives. The proposal that is now working its way through OMB to the Congress——

Mr. MURTHA. Does that have an impact, $13 a month?

Mr. HALL. I don't think so. We want to change it to allow for a lump sum payment once a year to the Reservists that would be comparable to the amount the Active component receives.

Maintaining language proficiency is no easier for a Reservists than it is for an active component individual and we think should be rewarded comparably.

INTELLIGENCE BUDGET GROWTH

Mr. DICKS. Your budget has some real growth in it; even though you are cutting personnel by 5 percent, is that correct?

Mr. HALL. There are many pluses and minuses throughout the program. There are certainly programs with a tactical application that are growing.

In aggregate terms, accounting changes. There are ——— being counted as TIARA for the first time in 1994 that were not included in the 1994 column last year.

When you correct for that, I think the tactical intelligence programs are basically level from 1993. There are programs that are increasing in funding, particularly in the defense agency accounts and capitalizing on national systems support.

Mr. MURTHA. The time of the gentleman has expired.

Mr. Young?

JOINT SURVEILLANCE TARGET ATTACK RADAR SYSTEM (JSTARS)

Mr. YOUNG. Thank you, Mr. Chairman. Mr. Hall, I would like to ask you a question out of curiosity before I get into a couple of issues.

I have been advised that information available through the Joint Surveillance Target Attack Radar System (JSTARS) airplanes in Desert Storm was not relayed to carrier battlegroups offshore. Is that accurate?

Mr. HALL. I am not familiar with that issue. Let me take that for the record.

[The information follows:]

In part, that is accurate. There was no direct, near-real-time link of JSTARS data to the afloat battle groups. The JSTARS information was incorporated into the air battle management, however (control of the air war was with the Air Component). Navy aircraft were directed to specific target areas based on near-real-time data that included information from JSTARS.

Mr. **Hall**. I would offer a guess, if you are interested. The Joint Stars System interoperates with a ground station module which has been deployed throughout the Army force structure. My guess is it probably was not deployed aboard ships and therefore Joint Stars could not talk directly to a carrier battlegroup and would have to rely on Army units doing the processing or perhaps taking Navy personnel and putting them with the Army unit and relying on a communications link to report to the Navy.

Mr. **Murtha**. What is the problem there?

Mr. **Hall**. The Joint Stars System has a ground station module that the Army is procuring. The system has basically been seen as support-to-ground warfare and the Air Force and the Army in the development of Joint Stars have been pursuing plans for the exploitation of the data.

The Army wished all the data to come down to the ground and are acquiring Joint Stars ground stations modules, which provides a direct down link from the aircraft that flies the Joint Stars surveillance sensor to this processing link.

The Air Force is proceeding with a plan to provide the processing onboard the aircraft and reporting the data down to tactical air control centers.

I don't believe that the Navy prior to Desert Storm had any plan directly to receive Joint Stars data.

So my guess is that during Desert Storm, the Joint Stars data was being received by Army ground units directly and that the processing of that data was being done in an all-service context and was reported by a voice link out to whoever needed the information.

The Joint Stars program is still in development. The JSTARS ground station module has been deployed, but that interoperates with an older system which provides for the indicator.

When Joint Stars achieves its full operational capability—it was deployed in the Gulf War as a demonstration system that was still under development—the JSTARS system will achieve its initial operational capability with three aircraft, I believe, in fiscal year ——— and at that point will be able to be interoprable with these ground station modules.

Mr. **Murtha**. Will the Navy still be part of that?

Mr. **Hall**. I don't believe there is a plan at this time for the Navy to receive the Joint Stars data. Money was put in for the Marine Corps, but not the Navy. The Navy was too far off the coast to receive it directly.

Mr. **Young**. An intelligence officer from one of the carriers indicated it would have been helpful to receive JSTARS information, but they didn't get it.

I was surprised they didn't get it passed through the station to one of the Joint Stars Centers somewhere there. He felt it would have been helpful to them to have had that same type of information. I was curious whether it was intentional not to give the Navy the information or just what the situation was.

Mr. **Dicks**. How would the Navy utilize the information?

Mr. **Hall**. It would be for the Navy support of land warfare. It would be provided to Marines ashore and for any Naval tactical aircraft.

Mr. Young. Ground targets that JSTARS can identify are attacked by carrier-based airplanes. We realize that JSTARS was still not in production and it was in effect prototypes they were flying. They did a pretty good job.

Mr. Hall. I will provide a more detailed answer for the record.

[The information follows:]

Since the war, there has been increased Navy interest in JSTARS. The Navy is looking at TOMAHAWK (TLAM) targeting applications. In addition to the information being used for Navy support to land warfare, it is conceivable that JSTARS could provide sea surface search and target tracking information to Navy battle groups. An inverse synthetic aperture radar mode is being studied.

However, except for activities relating to providing the Marine Corps with Ground Support Modules (GSM), the Department of the Navy is only involved in conceptual planning for JSTARS.

Near real times JSTARS connectively to Navy is dependent upon full implementation of the Joint Tactical Information Distribution System (JTIDS) and its integration into the production version of the JSTARS. This is planned and programmed within the FYDP.

FEWS AND DSP PROGRAMS

Mr. Young. The follow-on early warning system. Early warning becomes more critical all the time. How much more capable is FEWS going to be than DSP?

Dr. Quinn. FEWS will be able to detect some of the ——— targets that the DSP can't. It will have more coverage, ———.

In all those areas, it will be much more capable than DSP.

Mr. Young. What are examples of ———?

Dr. Quinn. Scuds. The DSP could see that, but there are ———.

Mr. Hall. I believe it will also provide a much more precise geolocation of the large point of the missile concerned than DSP can provide.

Mr. Young. Are there areas of the world that FEWS can cover that DSP cannot?

Dr. Quinn. FEWS will cover areas of the world DSP will not. DSP must be ———. FEWS will cover the entire globe by itself.

ADVANCED TACTICAL AIR RECONNAISSANCE SYSTEM (ATARS)

Mr. Young. We are going to get into more details on this program this afternoon.

I want to talk about ATARS. Battlefield commanders always want as much intelligence as they can get and they ought to have it.

With the SR–71 not in business and other programs not really working at this point, my understanding is the ATARS will be mounted on aircraft, F–16s, F–18s; is that correct?

Mr. Hall. Correct, and scheduled to be put on the unmanned aerial vehicles at mid-range.

Mr. Young. I understand the program also has serious cost overruns.

Mr. Hall. Yes, sir. For a combination of reasons, the program is estimated to have a problem of about $1.2 billion in terms of its current funding profile. That arises from two factors. When it first began in the late eighties, the force structure planned was much larger than what the Department will now field so that has led to a reduction in the planned buy of sensors from 795 to around 300. That has caused an increase in the per unit cost of the sensor.

Second, there have been development problems primarily with the sub-components of the system that has led to difficulties that I think are now behind us, but has driven up the cost of the program.

Unlike the SR-71 and the RF-4, which are film-based systems meaning that you have to fly the mission, take the film, bring it back and process it before you can disseminate information, the ATARS system is aimed at taking advantage of the digital technology available today to allow for a real-time collection from an aircraft down-linking data directly to the tactical supported force.

We have a lot riding on the ATARS program because I believe it represents the only alternative we have to provide that very large improvement to our TAC RECCE capability.

The Department is reviewing these cost overruns and developmental problems and I expect to have a decision some time within the next couple of months on the future of the program.

Mr. YOUNG. I was going to ask if we had alternatives. Your statement seems to indicate that we are getting those problems behind us.

Mr. HALL. I believe the developmental problems are mostly behind us and what we face now are cost difficulties in paying the bill.

We need commitment from Navy and the Air Force to buy the sensor systems. The Marines have already outfitted the FA-18C's so that their aircraft can receive the ATARS sensor, but don't have sufficient funds in their budget to be able to buy them given the cost growth that has occurred in the per unit cost.

We need commitment from the services to buy the sensors and pay the bill for the developmental cost overruns, and we don't really have an alternative to turn to that would provide this TAC RECCE improvement.

I think the choice that we face is to end the program and start again, which would be a many-year delay in our ability to field this capability——

Mr. YOUNG. If you do that, you won't build an ATARS then.

Mr. HALL. We would build something very similar to an ATARS, but we wouldn't build the ATARS per se.

Mr. YOUNG. That was going to be my last question, but you have piqued my curiosity. What would you do differently—if you wouldn't build the ATARS per se?

Mr. HALL. I think we would recompete the whole program. My guess is that the assumption we would use to take this approach by paying the bill to complete development of ATARS would be that the advancements that have occurred in the technology, which changes rapidly and improves every year or two, that the changes that have occurred in the technology area for real-time image recollection of a tactical sensor would allow us to find a proposal that would in sum be cheaper than just continuing the ATARS program.

Mr. YOUNG. So you could apply these new technologies to ATARS——

Mr. **Hall**. Either to ATARS or start with a whole new sensor system considering the Navy and the Air Force have not modified their aircraft yet.

Mr. **Young**. Which would be cheaper?

Mr. **Hall**. We could take engineering models developed, integrated on Marine aircraft, and fly them with the technical risks associated with the fact that not all bugs are out of the system and we would be engaged in concurrent R&D and procurement.

Choices are difficult. The main goal is to deliver the tactical capability in an affordable manner and we will look at all those options taking into account the high priority the military needs to place on TAC RECCE in light of the Desert Storm experience.

Mr. **Young**. Keep the Committee advised, if you would.

Mr. **Hall**. We will do that.

Mr. **Murtha**. Mr. Hefner?

Mr. **Hefner**. No questions.

Mr. **Murtha**. Mr. Visclosky?

HUMAN INTELLIGENCE (HUMINT)

Mr. **Visclosky**. Mr. Chairman, thank you very much. In terms of tactical intelligence, what is the role of people who are not necessarily in uniform or attached to set military operations?

One of my concerns regarding the money spent on technology is the lack of ability to get into somebody's head in terms of decisionmaking.

How do people plan what you do on a daily basis?

Mr. **Hall**. You are referring to the more traditional intelligence activities of human intelligence, for example?

Mr. **Visclosky**. Right.

Mr. **Hall**. We rely heavily on the national intelligence program to provide Human Intelligence (HUMINT). There is very little that is done in the tactical arena that would be considered classic human intelligence activities, espionage or just collecting openly available information, technical data on foreign systems.

This is just another area where the national intelligence programs provide very important support to our military operators. Examples from Desert Storm, much of the information that we gathered about the precise technical capabilities of the Iraqi military force was obtained through contact with various individuals both in the United States and overseas ———.

So they enabled us to know the technical parameters of the systems, the capabilities of those systems that we were up against.

If we had questions in our targeting, for example, within Baghdad, we were frequently able to identify who had constructed the various buildings to help us identify the type activities being conducted there so that we knew what was the difference between an office building and a military command and control center.

You have the more classical human intelligence information that is necessary, going out and collecting information on the plans and intentions of foreign governments.

Those activities were all undertaken in a unified HUMINT management structure ———.

Mr. **Visclosky**. You have people in the field and I assume that is your role—you have people attached to these units.

Are they digesting information, or are they looking for ways to know what is going on in peoples' heads. Do you do Prisoner of War (POW) integrations?

Mr. **Hall**. We have elements within the tactical intelligence aggregation aimed at handling integration of prisoners of war or line crossers that occurred during the Gulf War.

Mr. **Visclosky**. But you wouldn't, in anticipation of a strike, be sending people out——

Mr. **Hall**. That would be the special operations area, special operations command, special forces sending individuals behind the lines to do reconnaissance.

Part of the job you are referring to is an analytic job, getting into the mind of your opposing military force and trying to anticipate what the options are for that force, what capabilities they have and therefore what choices they might make.

That is a classical analytic job. We have many people, mostly in uniform throughout the force structure, whose job it is to worry that problem in support of the tactical commanders, identify the capabilities, what his possible courses of action are and determine with analysis of data what his probable course of action would be.

Tactical commanders would like to have this information provided them in the form of a crystal ball. That isn't always the case.

I guess it is true in intelligence as it is in weather reporting that we are in a business that you can be right only 50 percent of the time and still get promoted.

DRUG INTERDICTION

Mr. **Visclosky**. The drug interdiction program—I understand that your budget has a $100 million increase, most of which is buying back capabilities because of last year's reduction on the TIARA and counter-drug program. What do you anticipate improvements will be in terms of the fiscal year with another $100 million? What is your total dollar figure?

Mr. **Hall**. Approximately $400 million in 1994 compared to about $300 million that was in 1993.

We had requested $400 million in 1993 as well and it was reduced. The main effect the reductions had was in improvements we planned to make in the sensors we used to monitor and detect activities that are drug related.

We have a system called the Airborne Reconnaissance Low which the Army is pursuing which would fly communications intelligence and imagery sensors and use that to queue one from the other.

We would be flying the aircraft, listening to communications upon hearing drug-related traffic we would locate where the emitter was coming from and fly there and take a picture to hand off——

Mr. **Visclosky**. You don't actually have people on the ground or people doing the interdiction? You are providing the information on which others would act?

Mr. Hall. That is correct. We are providing the sensor technology and the collection system. We are also providing analytic support, getting into the minds of the drug traffickers by doing analysis of where they might be, what they are up to, what their infrastructure is.

So each joint task force has analytic efforts that are aimed at their particular area of responsibility and being knowledgeable and analyzing the data associated with the drug activity that is underway there.

So we do provide that type of support.

Mr. Visclosky. What is your batting average? You kicked around 50 percent and the possibility of getting promoted? Has this had any impact? I represent Gary, Indiana, and for a city of 111,000 people, we have had 39 murders this year. It has taken a vicious turn recently because gangs are coming in from Chicago and not only killing people by shooting them in the head, but slicing their faces off.

I look at all the money we have spent and my police force is outgunned, out-manned, and getting the heck kicked out of them. I am looking at $300 million and I could use a million dollars of that and hire a hundred cops and get these guys out of there.

Mr. Hall. Sir, it is always difficult to judge the effect one is having in an area such as this. Regardless of the amount of drugs that get interdicted, the supply is so great it is probably not going to affect the price of drugs on the streets of Gary, Indiana.

The counter-drug mission is not something that the Department had as a mission until late in the eighties when it was directed that it undertake these responsibilities.

The Department provides the best program it can to try and perform this mission to detect and monitor drug traffic and turn it over to the various law enforcement agencies both in host governments that are cooperating with the United States as our own border interdiction.

Mr. Visclosky. What is a ballpark sense as to success of the program?

Mr. Hall. I am not an expert on this. My own judgment, based upon what I know, would say it has been marginally successful.

Mr. Visclosky. Mr. Chairman, I would yield at this point. I have some particular interest in the anti-submarine warfare program as well. I know the Chair has a number of questions on that issue for the record. Thank you, Mr. Chairman.

Mr. Murtha. Mr. Lewis?

Mr. Lewis. Thank you, Mr. Chairman.

I was interested in the discussion earlier as Mr. Dicks and you were going through the numbers of people affected as far as manpower was concerned. As he asked a question about general shrinkage of defense budgets and in terms of military intelligence, you rather directly said that as the budget shrinks, our budget will shrink.

I couldn't help but scratch my head about that response. Quality builddown of our national defense described by the former Secretary supported, I presume by this Secretary, as numbers shrink and dollars shrink, hopefully you use your dollars for your highest possible priority needs.

I assume that research and development would fall into that category, keep us on the cutting edge of use of dollars for material and equipment, et cetera.

Intelligence—it would seem to me—somewhere lies on that edge.

You have already suggested you can't retrain these people easily, they have to keep their language skills up, et cetera.

You also suggested that as there is that shrinkage across the board, that presumably in this changing world, other kinds of intelligence activities continue to go on through NSA that relate to our defense personnel and defense needs.

What can you tell us that might establish some sense of confidence that we will stay on the cutting edge as far as our defense technical intelligence needs are concerned?

I ask that question in no small part because of Mr. Young's questions about interlinking between JSTARS and ground troops in the Navy.

In other venues, we have been exposed to the reality that even in intelligence circles, communicating with one another across the branches is not necessarily easy. The Navy probably didn't deploy the equipment because they were doing their own thing and the branches continue to operate similarly.

What is there to suggest that there is improved communication not just between the branches of the military, in terms of intelligence personnel, but what is being done to overcome some of those difficulties?

What kind of confidence can we have that agencies under NSA are really communicating with the military in terms of their needs?

Mr. HALL. You have asked three very difficult questions; on personnel, on the general area of R&D, and the third on interoperability.

Let me previously answer those in a way that I hope will show you some confidence that our plans are sound.

In the area of personnel, while our personnel totals are coming down, as I noted in my response to Mr. Dicks, the large portion of our reductions are associated with the force structure changes that are occurring throughout the Department.

As we cut down on the number of ships, on the number of air wings and Army divisions, et cetera, there is a comparable reduction in the intelligence support that each of those entities have.

I believe that most of the personnel reductions that we have planned we can accommodate through those type changes. We seek to protect those that provide, those personnel areas that provide defense-wide support that aren't amenable to the variances in the defense structure.

For example, the personnel supporting the Defense Mapping Agency is at a level of effort that doesn't call for big reductions because the size of the world hasn't changed.

I believe that most of our reductions can be taken from the changes that are occurring in the force structure. It would be my job and the job of the Assistant Secretary to whom I report to point out to the Secretary that personnel reductions that are being directed by the services are too deep and are adversely affecting important defense-wide intelligence functions.

There is no question that there are capabilities in the tactical intelligence area that we would like to have that the budget reductions are making it difficult for us to find affordable.

One program is one this committee is directly interested in that would provide significant improvement in our ability to do broad area imagery collection, for example.

So I would not say from the R&D perspective we have all bases covered in terms of areas identified my military forces as important to them in terms of intellgience support, but I would point to a number of programs that I can despite some having developmental problems, they represent a commitment to provide new capabilities for tactical intelligence to our force.

ADVANCED TACTICAL AIR RECONNAISSANCE SYSTEM (ATARS)

The (ATARS) is a revolution in the way the Department would conduct imagery collection in support of the forces by giving them real time imagery data.

We have plans for the follow-on early warning system. That is also another sizable investment of R&D dollars.

We have programs that will hopefully provide us unmanned aerial vehicles at short range in particular, and other aspects, the close-range, medium-range, and we are beginning to pursue tactical endurance class unmanned aerial vehicles that provide an opportunity for a whole new area of capabilities for tactical reconnaissance.

The third area is perhaps the most challenging, interoperability. We have fielded a force structure of systems that didn't anticipate in every instance the Goldwater-Nichols type Unified & Specified (U&S) command structure and it also did not anticipate the requirement of the information collected by the Army having to be shared with the Navy directly in the intelligence sense.

Last fall the Department issued a directive, a new DOD directive that established for the first time the policy that any system being acquired in the C3I arena shall be deemed to be available for joint use——

Mr. Lewis. Problems relative to interoperability apparently were very well known to all of the principals who were involved before we went to Desert Storm.

Some of the problems that came out of that that were identified were identified because of a lack of work done before we got there.

Do we have to wait until a crisis before the head of intelligence in the various forces recognize the critical importance of our breaking down those walls rather than waiting until we get into the field and complaining about it afterwards? They knew we had problem ahead of time, didn't they?

Mr. Hall. It was known in certain dimensions. In some cases, the problem will persist until there is the identification of standards that all services can build to.

The setting of standard is a difficult and time-consuming process because it is an extremely complicated and detailed——

Mr. Murtha. What do you mean by standards; software, hardware or operability standards?

Mr. HALL. It is primarily in the software and in the data display. For example, we have to define a location on the ground the same way. The Air Force can't use one system and the Navy use something different in terms of geographic coordinates, for example.

That is a standard long in existence and we do have that standard available, but when you apply this elsewhere in the intelligence arena, you find we need the same type way of processing imagery data so that the machine used to process the data is the same one that is on the other side of the communications pipe that I want to send it to.

Mr. MURTHA. This is what you are supposed to be doing.

Mr. HALL. Yes. My point is that the Department has now set a policy that requires that all these systems be interoperable. We have established the mechanism to review interoperability in the form of an Intelligence System Council that allows for anybody in the department, primarily the CINCs, to identify problems with legacy systems, the systems built and fielded throughout the services prior to this policy being established and bring it to this council for resolution of interoperability uses.

You will see funds in the budget to correct some of the interoperability problems that have existed.

It is a difficult problem because the services have fielded systems throughout the eighties without the idea of communicating for sending data to other services and it is going to take time to fix.

You should have confidence that the policies are in effect now within the Department to solve this problem, that it is getting adequate attention in terms of identifying what legacy needs to be modified and changed rapidly because of the effect they have on combat operations and that we are addressing each of these areas which are extremely complicated.

Mr. MURTHA. You are saying that we need a certain amount of information. All the services need a certain amount of information on the battlefield.

You are establishing standards for——

Mr. HALL. How that information will be tagged, classified and disseminated.

Mr. LEWIS. Within military circles and interests—how about broader than that? What about NSA?

Mr. HALL. The Defense Information Support Agency has been named the standard czar, if you will, for the DOD. Underneath DISA, there are standard management committees established, one at the Central Imagery Office, the recently-formed organization to look across all the department's imagery activities.

NSA has the standards for signals intelligence activities.

Defense Mapping Agency has all the standards associated with maps. Their job is to come up with a single set of standards that all services will have to use in the systems that they develop and deploy. That takes care of the future.

No system can be modified that exists today or no system can be purchased new without adhering to these standards and these standards have to be tested before acquisition and procurement can proceed.

Legacy systems, we are studying them one by one and identifying where it is cost effective to modify them to promote the standards and interoperability and where we would wait for a block change because it is too expensive to modify it and wait until they have to be replaced before we improve interoperability.

Mr. LEWIS. Mr. Chairman, my line of questioning follows this presumption, that as the world changes, we tend to put a piece on our wish list. It is going to be a peaceful world, more hopeful. There will be no more problems that will require military attendance so we intend to want to shrink those budgets and those priorities.

It seems to me that one of the most important things about America's ability to lead is to be prepared that we might be wrong in terms of that wish list.

So as these dollars shrink, coordination between the military branches is very important, but coordination with other intelligence activities seems to me to be critical.

I don't know if military operators and war fighters sit on the council within the NSA and our total intelligence community, but it is clear if they don't, they ought to be there.

It is clear that if we have turf problems within the branches, we have turf problems within individual units within NSA.

One way or another, we ought to make certain that we keep our eye on the target. I am not confident that we have begun to win those turf battles and I would hope, Mr. Chairman, we pay some attention to that in the months and years ahead.

Mr. MURTHA. I appreciate what the gentleman is saying because I think one of the problems we have had in the past is that we are the only ones who have been carefully going over this budget and more and more in the last couple of years.

It is something not in the public realm. We have started to focus on it. I know that with less money the Defense Department is also focusing on what needs to be done. We are going to have to use less money.

The public has said they want to spend less money on defense, and intelligence has to be a priority. We have to make sure we don't make any mistakes, because the days of simple intelligence gathering are gone.

This has become one of the most complex issues I hear about.

I would like to see some progress. Is there any progress being made in reducing the duplication of efforts and research, money and standards, et cetera?

Mr. HALL. I think that there has been and will continue to be significant progress in the area of system standards and in the area of eliminating unnecessary duplication. If there is an area we have today where we have redundancy across the services, it is probably in the area of analysis of data.

We basically have followed an approach within the Department that as long as military commanders have the opportunity to make decisions on the battlefield that they need to be informed with the best information available and they need a staff that can process the all source data that comes in from the various sensor systems and tailor it for support to the operational activities they are conducting.

Some people look at that and say you have the same imagery, for example, or the same signals intelligence data being looked at, at this corps as you have the numbered Air Force getting ready to conduct the strike.

The beauty of the American military establishment is the leeway that is provided for subordinate commanders to make decisions based upon the situation they find themselves in.

Intelligence can illuminate that space and it needs to be tailored for the operational capabilities of the unit concerned.

That is a redundancy and perhaps duplication that I think is good.

Others say maybe we can do all of this at a centralized location for the benefit of all. I don't believe that.

From a technical point of view, our systems are mostly joint throughout the tactical and national community. ATARS is an example, one system being built for the Marines, the Navy and the Air Force.

We have other examples that we can cite of similar activities in the Department. The Unmanned Aerial Vehicles (UAV) programs are joint programs, for example.

If I may, because I sympathize with the remarks that the committee members make on the importance of intelligence, I know that this committee provides heavy attention to the importance of intelligence in the conduct of support to our military, but there is a more general belief, I think widely held, by some of our colleagues and in the Senate that somehow because of the disappearance of the Soviet's fleet all these intelligence activities are less important and we can bring down intelligence expenditures significantly.

The Congress in the past has been very careful in its determination as to what intelligence capabilities we can dispense with. I hope the Congress will continue to provide that approach to the intelligence budget and identify rather than across-the-board reductions what are the specific capabilities that the nation can safely be without.

There are undoubtedly some of those that you will find fit in that category, but the thing I fear as a professional intelligence officer in the Department is the possibility of failure in support of a military operation because we fail to collect, process, analyze and disseminate information to our tactical forces that we could have done had we had the capability to do so.

I know you would hold us accountable if lack of information led to loss of life.

A goal that concerns me the most in my position is making sure that these activities will support military operations and I think that if one gets killed by a cruise missile aboard a ship, you are just as dead as if you were nuked.

I think that these type threats to our military personnel are growing in the future. They are not as serious as the threats that we faced during the Cold War that led to perhaps the threat to the nation, but I think they are just as serious in terms of the personnel we have in the field.

Mr. Lewis. Could I make a point by using a broader venue. When I became a new member of that other committee, I just got something that was on the general news. There were a lot of questions raised about our intelligence when suddenly we found ourselves with the Shah in such desperate trouble in the Middle East.

I said with all our intelligence, why didn't we know what was going on? We were depending upon certain operatives and contacts and systems in the Middle East and there were people working in Europe who knew about Khomeini, but nobody talked to each other.

There was no coordination and it was in part turf and in part not thinking it through in terms of our future. The intelligence network needs to be plugged into the other end.

I think we need to give priority especially with the tendency of our body to assume that intelligence is unnecessary in a changing world in the future.

Mr. HEFNER. Following up, it seems to me when you look at our shrinking budget and you look at the manpower, ——— it is more important than ever to manage these resources to minimize duplication and get the most for our investment. If we don't the people who suffer from it will be the troops on the ground.

I would hope that we would be very careful seeing that that doesn't happen because I think we have been guilty of that in some of our weapon systems. The ultimate goal should be what would be best for any missions we might have.

Mr. HALL. The House Intelligence Committee recently asked the operators to come in and testify and I had an opportunity to look at some notes taken, that involved commanders of major activities involved in Desert Storm, General Griffith, for example, Commander of the Seventh Corps—I think that if you asked these officers who are not intelligence officers, but the operators and the commanders of major combat forces, whether or not they have the confidence that they will get the information that they needed notwithstanding some of the problems that have occurred in the past—it is another aspect that has hindered the flow of information, which has been some of the compartmentation rules in the security system, that these officers would tell you as they told the House Intelligence Committee that there has been major improvement in the flow of information from intelligence systems at the national and tactical level down to the supported forces and if they have the communications systems and the necessary interoperability, which remains a problem today, that they feel confident that they will get all the information they need.

I think there has been improvement there. I think there is room that we need to progress as we develop the standards and field the necessary systems that can talk to each other, but I think there has been major improvement in breaking down the barriers across the services and major defense agencies and CIA on the actual flow of the information. I think everybody has got the message, sir.

Mr. LEWIS. Thank you.

Thank you, Mr. Chairman.

Mr. MURTHA. Thank you, gentleman. We have a number of technical questions for the record. If you would answer those for the record, we would appreciate it.

The committee adjourns until 1:30 this afternoon.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

PLAN FOR RESTRUCTURING INTELLIGENCE

Question. In March 1991, the Assistant Secretary of Defense for Command, Control, Communications and Intelligence approved and implemented the "Plan for Restructuring Defense Intelligence." The goal was to increase effectiveness and efficiencies through the elimination and consolidation of various activities and functions. Mr. Hall, are you still following the "Plan for Restructuring Defense Intelligence?"

Answer. Yes.

Question. Have any changes been made to the "Plan for Restructuring Defense Intelligence?" If so, what are the changes?

Answer. The Plan called for transfer of program management of the GDIP from the Director, DIA to the Principal Deputy for Intelligence. This was reversed by the National Defense Authorization Act for Fiscal Years 1992 and 1993. Subsequently, DoD Directive 5137.1, which details the ASD(C3I) authorities, restated that the ASD(C3I) shall provide program management to the GDIP. This responsibility was transferred by the ASD(C3I) to the Director, DIA in a memorandum dated December 13, 1991.

The Plan also called for the assimilation of the Joint Reconnaissance Center (JRC) into the DIA/J–2 structure. J3 and DIA/J2 agreed to leave the JRC in J3, but with greater J2 participation. The JRC is now colocated with the National Military Joint Intelligence Center, which provides the coordination that the original objective was to achieve. Accordingly, the ASD(C3I) agreed to this change.

Question. Can you please tell the Committee how the intelligence process has been made more effective and efficient as a result of implementing the "Plan for Restructuring Defense Intelligence"?

Answer. The Plan comprised three broad mandates for the Defense intelligence community: one for the Defense intelligence agencies, one for the Services, and one for the unified CINCS.

The mandate for the Defense intelligence agencies was to refocus away from the former Soviet/Warsaw Pact target toward "global issues" (proliferation, narcotics, terrorism) and to become flexibly postured to deal with crisis or military contingency anywhere in the world.

The mandate for the Services was to consolidate their array of Service intelligence organizations into one command.

The mandate for the unified CINCs was to consolidate the unified command and component intelligence organizations into Joint Intelligence Centers (JIC).

———.

The Army and Air Force have consolidated all their intelligence organizations into single commands, while the Navy has consolidated all but its cryptologic organizations into a single intelligence command. Plans for this final step are being finalized.

Consolidation of theater intelligence centers and examination of manpower requirements yielded substantial manpower savings and permitted personnel realignments to support undermanned JICS, such as Central Command's.

The Plan, through the above mentioned consolidations and reorganizations, allows the Defense intelligence community to significantly better address the changing needs of the user community than would otherwise have been the case.

CHANGING THREAT

Question. The traditional focus of intelligence has been planning, exercising and executing military operations in the European theater. Today the focus is for a rapid military capability responding to contingencies anywhere in the world. Mr. Hall, what is the new military threat?

Answer. Although the singular military threat posed by the former Soviet Union and its Warsaw Pact allies has crumbled, the world is not a peaceful place. Today's "threats" are multiple and diverse. North Korea still has a large armed force and still talks about reuniting the peninsula by force. Iran is seeking advanced weapons ———.

China has embarked on a military modernization program and intends to acquire highly advanced weaponry ———.

Russia still has a large force of nuclear weapons and the issue of giving up nuclear weapons in the Ukraine, Belarus and Kazakhstan remains unresolved. Pariah states such as Syria, Iraq, Libya and Cuba still have policies inimical to ours. Compounding the problems associated with these states is the continuing proliferation of advanced conventional and mass destruction weapons as well as the long-range delivery systems. To this list you can also add the instabilities caused by narcotrafficking and terrorism. Individually these threats are no where near the magnitude of that posed by the defunct Warsaw Pact. Cumulatively, however, they add up to a sizable collection of potentially threatening situations.

Question. What study or document that defines the emerging military threat did DoD use to justify the FY 1994 Defense budget submission?

[CLERK'S NOTE.—The Department was unable to provide a response in time to be printed in this hearing volume.]

Question. Military leaders believe that we must train as we intend to fight. How does DoD incorporate intelligence in warfighting exercises?

Answer. Intelligence has always had a very active role in warfighting exercises at both the national and tactical levels. At the national level, intelligence is engaged in development of the scenario, scripting the scenario and participation in the actual scenario play. In addition, the use of national systems are a featured part of any exercise. Participation of intelligence officers adds realism to the exercise by incorporating likely enemy activity. The compressed nature of scenario play also adds a degree of realism in that an increased sense of urgency is induced. This in effect creates the fog of war.

Specific examples of how we are introducing realistic intelligence play into exercises include:

Exercise TANDEM THRUST '92 was a live joint exercise sponsored by CINCPAC in July 1992. Among the major objectives of the exercise was an evaluation of national, theater and tactical intelligence support to the two-tier strategy for planning and executing military operations in the Pacific theater. From an intelligence perspective, the findings from the exercise were:

The Joint Intelligence Center, Pacific was stressed to provide responsive operational intelligence, imagery, bomb damage assessment and other intelligence support to deployed and deploying forces.

Bomb damage assessment itself continues to present a great challenge. There is no one place that has available on a real-time basis all of pre- and post-mission photography, crew debriefs and other all source intelligence necessary to perform this vital command function in a timely manner.

Secondary Imagery Dissemination Systems are vital to command decision making at all levels. Common architectures and C3 systems must be developed to ensure inter-service and inter-theater interoperability.

Tactical Exploitation of National Capabilities continues to provide a vital, realistic input to theater CINC exercises.

Exercise OCEAN VENTURE '93 was a live joint exercise sponsored by CINCLANT in April–May 1993.

Among the major objectives of the exercise was a test of joint theater intelligence tactical techniques and procedures, intelligence support to the joint movement coordination center, intelligence systems interoperability and testing joint force commander intelligence staff training requirements. Key findings from the exercise include:

The first use of a Joint Worldwide Intelligence Communications System afloat. The system was used to coordinate collection analysis and dissemination of large volumes of intelligence.

The first use of a Joint Deployable Intelligence Support System architecture linking the National, theater and Joint Task Force intelligence centers.

Within the afloat Joint Intelligence Center, Army personnel supervised personnel from all services in the Intelligence Preparation of the battlefield.

The first use of phase-two imagery exploitation from aboard a ship to directly support a complex bomb damage assessment and targeting effort.

At the tactical level, intelligence is responsible for preparation of the battlefield (terrain features, disposition of enemy forces, etc.) as done in OCEAN VENTURE '93 cooperating with the operations planners, assessments of enemy alternative courses of action and supplying current data on enemy actions during the actual exercise. The participation of intelligence in exercises enables commanders to have the opportunity to learn what to expect from intelligence, how to task intelligence assets as well as what intelligence might not be able to do. This enables more informed decision making on the part of the commanders.

TACTICAL INTELLIGENCE REQUIREMENTS

Question. Intelligence must be responsive to the consumer. The tactical intelligence user is not the analyst, but the warfighter. Who belongs to the study groups and boards that determine intelligence requirements?

Answer. Within Defense, the standing board that deals with military intelligence requirements is the Military Intelligence Board (MIB). The MIB is composed of the Director and Deputy Director, DIA, the Directors of NSA and the CIO, and the Intelligence Chiefs from the Services. In addition, the Deputy Assistant Secretary of Defense for Intelligence, the Associate Deputy Director for Operations/Military Affairs, CIA, and the J2 participate in the MIB. While not directly subordinate to the MIB, there are three intelligence standing groups that support the requirements process. These groups are: the Council of Defense Intelligence Producers; the Military Target Intelligence Committee; and, the Council on Functional Management.

Question. Do military operators and warfighters sit on any of the intelligence requirements boards?

Answer. Of the three groups dealing with intelligence requirements mentioned in the previous question only the Military Target intelligence Committee includes operators and warfighters as an integral part of its activities. However, DoD Directives 5000.1 and 4630.5 require that C3I system requirements be validated by the Joint Staff for jointness and interoperability for all categories of systems, and specifically by the Joint Requirements Oversight Council for C3I systems in Acquisition Category 1. This process ensures that warfighters and operators review intelligence requirements.

FORCE STRUCTURE

Question. The current DoD base force structure numbers support two major regional conflicts. Mr. Hall, can you please define a major regional conflict?

Answer. The break up of the Warsaw Pact eliminated the Defense Department's single, over arching military planning factor. Because of the break up, military planners were challenged to develop new planning factors in line with U.S. national security interests. These interests happen to be regional in nature, but were not of the size and scope of a conflagration with the Warsaw Pact. It was also not necessary for the new scenarios to be country specific; rather for military planning purposes the scenarios envisioned a major war in a remote region that would stress force size and mix, distance, closure time, host nation availability, infrastructure requirements and other military planning factors.

The Gulf War is perhaps the best example of what has been envisioned as a major regional conflict. It required the commitment of a field army ——— fighter/bomber squadrons, several Marine expeditionary forces and six U.S. aircraft carriers. It required a Presidential call up of reserves, partial mobilization of civil reserve air fleet assets, engaged fast sea lift assets and was halfway around the world where the U.S. did not have any significant forward presence.

Full-scale war on the Korean peninsula would also constitute a major regional war. Because the South Koreans have a fairly robust ground force capability, U.S. air and naval assets ——— would be engaged early in the war. The distance to Korea is great and would stress U.S. air and sea lift capabilities.

I think it is necessary to point out that these scenarios are not predictive of the future. They were constructed to ensure that the U.S. had adequate military forces and equipment necessary to defend U.S. security interests when called upon to do so.

Question. With the budget and force draw downs, can U.S. military intelligence support two major regional conflicts and its peacetime missions? If not, where are the principal intelligence shortfalls?

Answer. ———.

TIARA BUDGET REQUEST

Question. Although dollars grow by 5 percent over FY 1993's appropriated dollars, the number of personnel is reduced by 5 percent. Can you please tell us what the impact of the personnel reductions is for TIARA?

Answer. There is no significant, specific impact of the 5 percent reduction. Service TIARA manpower reductions are primarily a result of general Service force structure reductions, not specific programmatic reductions.

Question. The Defense Mapping Agency produces maps and charts for the military forces. The Defense Mapping Agency's FY 94 budget request increases by $100 million. Over fifty percent of the increase is for the new software maintenance. The increase does not translate into increased map or chart production. What benefit is the warfighter receiving from the costly upgrade?

Answer. DMA total increased from $739M in FY 93 appropriations to $841M requested in FY 94, a total of $102M. Of that increase, $12.4 million is for software maintenance.

The $102 million increase in the DMA FY 94 budget request is needed to continue to provide the critical geospatial information and services required for successful military operations, including essential support for the deployment and accuracy of modern weapon systems.

The primary reasons for growth are the implementation costs associated with the new DMA Digital Production System (DPS) and the necessary follow-on DPS improvements required to produce additional products in support of the level of crisis-related military operations in today's changing world.

Operation and improvement costs comprise over $48 million of the total increase. These increases were necessary to fund the following: (a) Operations and Maintenance of 9 million lines of code, production supplies and materials; communication lines; and printing and (b) investment—RDT&E and related follow-on procurement for essential system improvements to meet evolving requirements (including the acceptance of Landsat 7 imagery as a new source).

Other growth factors include:

(a) Technical Adjustments.—Resulted in approximately $35 million of growth in FY 94. They include: (1) reinstatement of Real Property Maintenance to the O&M appropriation (vice receipt of a suballotment from Real Property Maintenance, Defense Account in FY 93); (2) an increase for services now provided by the Defense Finance and Accounting Service; (3) funding of contract audit and administrative activities; and (4) fact of life price growth such as inflation.

(b) MC&G Requirements.—Net balance of growth ($19 million) is needed to fund safety of navigation requirements (such as new Eastern Europe flight zones), production via new international agreements, and other contracts for products and services, all of which support military needs.

In summary, DMA's growth is critical to providing the level of combat support needed for the military's response to the threats of today's changing world environment.

Question. Are TIARA programs adequately funded? If not, where are the deficiencies?

Answer. Yes. TIARA programs are adequately funded.

DESERT STORM: LESSONS LEARNED

Question. In last year's testimony, we addressed DESERT STORM shortfalls. The shortfalls identified during DESERT STORM were: intelligence architectures for joint operations; fusion of national and tactical imagery; imagery reconnaissance systems to support all levels of command; secondary imagery dissemination; and battle damage assessment. Has DoD fixed any of the shortfalls identified during DESERT STORM?

Answer. Yes. A total of over one hundred separate lessons learned have been entered into the Joint Universal Lessons Learned (JULLS) system for continued action by the Military Intelligence Board (MIB). The MIB is chaired by the Director of Military Intelligence and includes: the Deputy Assistant Secretary of Defense for Intelligence; the Assistant Deputy Director for Military Affairs, Central Intelligence Agency; the Directors of the Defense Intelligence Agency (DIA), the National Security Agency, the Defense Mapping Agency and the Central Imagery Office; the J2 organization of the Joint Staff; and the Service Intelligence Chiefs of the Army, Navy, Marine Corps and Air Force. Fifty of the one hundred JULLS items have been satisfactorily addressed, and the remainder continue to be MIB action items.

Specifically, DIA and the J2 organization of the Joint Staff took aggressive action during operation SOUTHERN WATCH, the enforcement of the no-fly zone over southern Iraq, to take the emerging intelligence connectivity provided by systems like the Joint Worldwide Intelligence Communications System (JWICS) and the Joint Deployable Intelligence Support System (JDISS) and apply a standard theater intelligence architecture to the needs of the Unified and Specified Commands involved in the operation.

DIA and the J2 have also been exercising this sort of connectivity in a variety of innovative exercises. Within the Pacific Command, Exercise COBRA GOLD in Thailand has thoroughly validated the capability of the JDISS architecture to support the Joint Task Force (JTF) commander ashore. In the Atlantic Command, JWICS connectivity was established aboard the JTF command ship, the USS Mount Whitney, during exercise OCEAN VENTURE, enabling the J2 of the JTF to successfully fuse national and tactical imagery requirements. In fact, in a demonstration of this capability, the imagery analysts of the Atlantic Intelligence Command in

Norfolk were able to manipulate and annotate national imagery in response to interactive comments from the JTF Staff aboard the command ship. Then, the finished product was transmitted to the ship.

In addition, the JTF Commander and the Joint Forces Air Component Commander (JFACC) were collocated on the command ship. This implemented another important lesson from the Gulf War, unifying command and ensuring that joint aviation assets were integrated. Battle damage assessment (BDA) doctrine developed during the January 1993 airstrikes on military targets in Iraq was thoroughly exercised. In contrast to the cumbersome BDA procedures in effect during DESERT STORM in 1991, DIA was able to receive the gun camera video at the Pentagon within hours of an actual strike mission to fuse together with national imagery and signals intelligence (SIGINT) to produce an accurate and timely assessment of mission success.

Service Tactical Intelligence and Related Activities (TIARA) priorities have become more focused on regional/tactical warfighting support, providing timely, accurate intelligence to deployed forces featuring mobile intelligence collection and support systems which interface directly with, and provide support to, combat/strike mission planning and execution. One example of recent integration of intelligence and operations systems is the Air Force's Contingency Tactical Air Control System Automated Planning System/Intelligence Correlation Module and SENTINEL BYTE which support the JFACC and wing/squadron air campaign planning. Units can receive near real time data via CONSTANT SOURCE or Tactical Information Broadcast Service. The former consists of tactical user equipment to receive, process, correlate, and display near real time electronic threat information to support indications and warning and mission planning/execution. The latter is a near real time satellite communications broadcast of the machine-sanitized SIGINT air/ground threat picture for targeting, mission planning and battle damage assessment.

The Navy's installation of the super high frequency (SHF) communications systems on carriers and major amphibious/command ships allows for better interoperability with the other services and faster imagery transmission. The Navy has also provided JDISS to flagships and all deploying battle groups to give afloat commanders the ability to pull data and imagery directly from national/theater intelligence centers. The Navy Tactical Command System Afloat (NTCS-A) has been enhanced to include imagery digitization and handling functions, such as the ability to pass imagery files over the NTCS-A local area net. Features added to the Fleet Imagery Support Terminal enhance its utility to the warfighter including selectable compression ratios which can shorten image transmission times, the ability to transmit/receive over faster SHF communications, and an "imagery pull" capability which allows the recipient to choose the images he desires from all that may be available.

Army TIARA programs have been tailored to provide: responsive intelligence and targeting support to a smaller force; better balance across the three major intelligence disciplines (SIGINT, IMINT, HUMINT); and more versatile and deployable systems.

DESERT STORM underscored the critical requirement to process, fuse, and disseminate volumes of intelligence from multiple sources in near real time. The Army realized that the All Source Analysis System (ASAS) could benefit from the Balanced Technology Initiative, HAWKEYE, that proved effective in DESERT STORM. Consequently, the Army included HAWKEYE technology as an integral part of the ASAS Block I program. TROJAN SPIRIT was developed in response to a critical need for a robust intelligence communications/dissemination capability. Mobile Integrated Tactical Terminal/Forward Area Secondary Imagery Dissemination and Tactical Related Applications (TRAP) Forward Area Secondary Imagery Dissemination and Tactical Related Applications are systems designed to satisfy the urgent requirement, underscored in DESERT STORM, to provide division commanders with secondary imagery. Systems like JSTARS Ground Sensor Module (GSM), Unmanned Aerial Vehicle (UAV) Short Range/Close Range, and increased imagery support at division level Mobile Integrated Tactical Terminal/Forward Area Secondary Imagery Dissemination and Tactical Related Applications are being funded to improve the Army's ability to accomplish near real time linkage from sensor to shooter (targeting), situation development, battle management, and BDA.

Question. What initiatives have you included in the FY 1994 budget request to fix the shortfalls from DESERT STORM?

Answer. OSD is working with the Director of DIA to fully integrate the budget components of the TIARA and GDIP programs. This wil help ensure that interoperability between Service intelligence systems is a prime consideration. DIA GDIP has funds for JWICS/JDISS as part of DoD Intelligence Information System core standards for dissemination of intelligence.

The FY 1994 Army TIARA includes funds to field 12 ASAS Block I systems including HAWKEYE technology to its highest priority corps and divisions (Force Package I units), 32 additional TROJAN SPIRIT systems, and secondary imagery dissemination systems at echelons above corps, corps, division, and armored cavalry regiment. The January 1993 Defense Acquisition Board decided to proceed with low rate initial production for seven UAV Short Range systems for the Army and Marine Corps.

In the FY 1994 budget request, the Air Force is continuing to fund major development efforts such as Follow On Tactical Reconnaissance System, the Joint Services Imagery Processing System, the Joint Surveillance and Target Attack Radar System, the Intelligence Correlation Module, and the Follow On Early Warning System, while supporting modifications/improvements to critical programs such as RC-135 RIVET JOINT, Defense Sensor Program, SPACETRACK and the Defense Meteorological Support Program.

A key Navy initiative in FY 1994 involves funding to build a second Fleet Mobile Operations Command Center (FMOCC), which gives Navy component commanders the ability to support a JTF commander from ashore with all required C3I capabilities, including imagery. Development of FMOCC was a direct result of DESERT STORM. The Navy's FY 1994 budget also includes RDT&E funding to integrate the Advanced Tactical Air Reconnaissance System (ATARS) with the reconnaissance capable F/A-18 for the Navy and Marine Corps. RDT&E funding has also been provided to develop the Joint Services Imagery Processing System for the Navy.

Question. Mr. Hall, are the existing shortfalls identified during DESERT STORM a result of fiscal or technological constraints?

Answer. The existing shortfalls within Defense intelligence identified during DESERT STORM are the result of both fiscal and technological constraints. However, the answers to most of our interoperability, collection and dissemination issues can be solved with existing technology.

No engineering breakthroughs are required in extending the JWICS/JDISS link through the echelons of command. We do not require the development of a new Secondary Imagery Dissemination tool. However, we must retrofit existing or replace all Secondary Imagery Dissemination Systems so they use the DoD standards defined by the National Imagery Transmissions Format Standard and the Tactical Communications Protocol.

At the time of DESERT STORM, the technology had not been developed to provide near real time, day/night, all weather, digital tactical reconnaissance information to tactical/operational commanders. While that technology is currently in development, technical challenges remain. Technical constraints with the Digital Tape Recorder and Medium Altitude Electro Optic sensor have caused delays in the ATARS program. While fixes for these problems have been identified, the development of ATARS under a firm fixed price contract has created fiscal constraint to their implementation.

FOREIGN MATERIEL ACQUISITION & EXPLOITATION

Question. The FY 1994 budget request includes $336 million dollars to buy and exploit former Soviet Union Weapons. Mr. Hall, can you please outline the plan for purchasing and exploiting weapons systems ———?

Answer. The plus-up in FY 1994 to the ASD(C31) Foreign Materiel Acquisition and Exploitation (FMA&E) line will fund a unique and potentially time-sensitive opportunity to acquire and exploit major, state-of-the art weapons systems ———. This effort is consistent with the objectives for which the FMA&E Fund was established and will be carried out in accordance with DOD Foreign Materiel Program Procedures and under the guidance of the Foreign Materiel Program Review Board (FMPRB) representing ASD(C31) and USD(P) (co-chairs); USD(A); D,PA&E; D,OT&E; OSD Comptroller; and DIA.

The acquisition and exploitation of ——— will be conducted according to the following guidelines:

Targets systems have been identified by DOD; the list will be reviewed and updated throughout the acquisition process based on emerging opportunities and constraints. ———.

Vetted system acquisition offers will be recommended to the FMPRB for funding approval.

Upon FMPRB approval, funds will be transferred for system acquisition.

The system will be exploited according to prioritized DOD requirements.

Question. Mr. Hall, the TIARA program requests $336 million to purchase and exploit ——— weapons in FY 1994. How was the budgeted number determined?

Answer. Our request is based on an April 1992 poll of service acquisition chiefs, ASD(PA&E), DDRE(DT&E), DOT & E, SDIO, NSA, DIA, C3I Systems Committee, Conventional Systems Committee (DDR&E), and Strategic Systems Committee (DDR&E) for their nomination of the top five to ten weapons systems they deemed would have "the highest payoff in terms of cost-effective support to US acquisition and intelligence activities". The total dollar figure to acquire and exploit the highest priority systems came to $341 million. The Plus-Up total was combined with the existing FY94 budgeted amount $11 million for a total of $352 million. (That figure has been modified by small business innovation research tax and inflation adjustments to $336 million.)

The list formulated in April of 1992 was reviewed in April of 1993. Some requirements had been satisfied, and some new opportunities had arisen. A new list was developed, and subsequently approved by the FMPRB members. It appears below (dollar amounts are for combined acquisition and exploitation): ———.

Question. Many former Soviet military engineers are looking for work. Open source documents publish weapons systems designs. Would it not be cheaper to use human intelligence and open source documents for weapons systems information, instead of purchasing the systems?

Answer. Weapons systems will be purchased only when they represent the unique source of information, unattainable by other means, to answer the questions or needs of DOD components. ———.

Question. What other Foreign Materiel acquisition and exploitation programs are funded in TIARA?

Answer. Army and Navy each have a TIARA line as part of their Foreign Materiel Program (FMP). Air Force is moving to establish a TIARA element in FY 1995. Army's TIARA FMP line for FY 1994 is $18.9 million. Navy's for the same year is $.3 million.

Question. Other countries, such as China and France, are developing weapons systems the U.S. warfighter will face in future wars. Is there a plan for purchasing weapons systems from non-Soviet countries as well?

Answer. ———.

Question. There are foreign materiel acquisition and exploitation programs in the National Foreign Intelligence Program. Has DoD coordinated with the Director of Central Intelligence to eliminate duplication between the National Foreign Intelligence Program and TIARA?

Answer. Yes. The DoD Foreign Materiel Program, through its DIA Foreign Materiel Program Office, coordinates requirements for all NFIP hardware collection activities. In addition, CIA, State and DoE are observers to both the Foreign Materiel Program Review Board and its subsidiary monthly coordinating sessions.

ANTI-SUBMARINE WARFARE (ASW)

Question. During the Cold War, Soviet submarines routinely operated in U.S. coastal waters and maintained a large percentage of their ballistic missile submarines in combat readiness state. What is the current threat to our maritime forces?

Answer. Russia's post Cold War military strategy views war with the West to be unlikely, although possible if it escalates from a regional conflict. Key to Russia's new doctrine is a policy of deterrence, and key to deterrence is a survivable sea-based nuclear strike capability. In the post-START II era, over 50 percent of Russian strategic missiles will be carried aboard submarines.

Today, both for political and economic reasons, the Russian Navy submarine force is downsizing and operating almost exclusively in home waters. While the number of operational submarines is declining, ———.

In contrast to Cold War days, Russian intent to threaten U.S./Allied maritime forces with its submarine forces is no longer evident; however, the capability for threat remains. The Russian submarines are still an effective force capable of forward-deploying and posing a maritime threat to U.S./Allied maritime interests. Furthermore, the Russians continue to pursue advanced undersea technologies which will enhance defense of their contiguous waters against any potential aggressor and which would also improve their combat efficiency in forward areas, should they resume an aggressive strategy. The Russians are building a new nuclear attack submarine, which will incorporate extensive ———.

While the end of the Cold War has brought a decreased likelihood of confrontation between the U.S. and Russia, the sweeping changes in politics and economies of nations around the world have increased the potential for the U.S. to become embroiled in regional conflicts. From a maritime viewpoint, that means that the U.S. Navy must be prepared to engage a variety of "brown-water" navies, whose capabilities range from the ———.

For many of these rest-of-world countries, the conventionally-powered diesel submarine is the platform of choice, because it is relatively cheap and extremely well-suited for anti-surface ship and special warfare combat roles in shallow and restricted waters.

The greatest threat posed by rest-of-world submarines is against Sea Lines of Communication—transports, merchant ships, and tankers—through either covert mining or torpedo attack. Against Western submarines and surface combatants, the threat today is considered low. In general ——— contribute to the current low threat. However, this profile could easily change with on-going modernization and shipbuilding programs and increased tactical training.

Numerous rest-of-world countries have submarines in their inventory—the newest member of this community being Iran (one Russian-built KILO SS, and two more to come). However, in most cases, the submarines are few in number and pose a limited threat. In a potential regional conflict, the country with the most formidable maritime capability is India—especially given their stated intent to become the dominant regional power in the Indian Ocean and ——— Indian naval forces, including submarines, have ———.

The Indian submarine presence in these waters will only increase in the future, as they gain experience with their modern platforms, add additional ——— diesel submarines to their inventory, backfit older units with ———.

The Cold war era has given way to a period of uncertainty, where our next adversary cannot be confidently predicted. Thus, the best measure of future threat is capability, because we are not able to forecast intent. By far the most technologically-advanced submarine force that the U.S. might encounter is that of the Russian Navy.

But it is more likely that the U.S. Navy will face a regional, brown-water adversary. Although the submarine forces of these countries pose a limited threat today, there are advanced technologies readily available in the world market place. Both Germany and Russia are major exporters of modern diesel submarines, while a wide array of Western and Russian weapons and sensors are also being offered. In a brown-water engagement of the not-too-distant future, it is entirely possible that U.S. maritime forces might encounter a submarine force composed of ———.

Such a submarine force, operating in shallow coastal or chokepoint waters, could pose a significant challenge to U.S. and Allied maritime forces engaged in a regional conflict.

Question. Mr. Hall, the TIARA budget requests $500 million for ASW programs. Of the requested amount, $162 million are for enhancements and consolidations in the ASW program. What types of enhancements and consolidations are you doing?

Answer. In the current budget, only $77 million is for enhancements and consolidations. The $162 million referenced in the question was based on a preliminary estimate derived from gross level budget figures. After further review of subsequently available budget detail and discussions with Service Program Sponsors, the estimate was revised downward to $77 million specially for "enhancements and consolidations". Excluded from the revised total are funds such as R&D on surveillance Towed Array Sonar System (SURTASS) ——— which has not yet reached initial operating capability; procurement of repair cable and ship mission equipment; and deep water pier construction in Hawaii for SURTASS ships. The consolidation of the Integrated Undersea Surveillance System's (IUSS) Sound Surveillance System (SOSUS) arrays and sites consists of:

a. Reducing from four SOSUS sites to two in the Pacific and from four SOSUS sites to three in the Atlantic. In the Atlantic, one site will be USN owned and manned, while the two others will be co-manned/owned with two allies. ———.

The SURTASS program has also been significantly modified in response to the reduced Soviet threat and the emerging Third World submarine threat. Specifically:

a. The 18 monohulled T–AGOS 1 Class ships will be removed from service by FY 1997.

b. Increased emphasis on regional threats has placed new importance on the development of long-range surveillance systems that are effective against conventional submarines which are difficult to detect. Funding supports completion of development of the SURTASS Block Upgrade and Reduced Diameter Array, which will allow T-AGOS 19 Class ships to ——— detect submarines in coordination with a SURTASS ——— ship, acting as a "force multiplier" by extending the detection range against conventional submarines in all environments.

Project BEARTRAP's FY94 ASW enhancements are all directed toward the littoral water/regional conflict environment, in direct support of Navy and DoD warfighting objectives ———.

Specifically: ———

Question. In the past two years, what intelligence data has been collected from ASW sensor systems that has directly impacted on U.S. Navy tactics or countermeasures?

Answer. ASW sensor system intelligence data has provided detailed information on foreign submarine patrol patterns, transit routes and training patterns. Intelligence gained from monitoring foreign submarine operations has been critical to the development of effective counter tactics against all potential threat submarines. A few examples: ———.

COMMAND, CONTROL AND COMMUNICATIONS (C3) OVERSIGHT

Question. Dr. Quinn, how do you ensure that military Services and Defense Agencies develop Command, Control and Communications Systems that are interoperable and not redundant?

Answer. We have recently published new DoD policy and procedures which greatly enhance the process of how compatibility, interoperability, and integration requirements are stated, coordinated, validated, and approved. The new policy and procedures require that all new and modified C3I systems needs and operational requirements documents be certified by the Joint Staff for conformance to joint C4 policy and doctrine, interoperability, conformance to functional architectures, and potential for joint use before approval. The new policy mandates joint certification testing under the supervision of the Defense Information Systems Agency's (DISA) Joint Interoperability Test Center for all C3I systems.

The new policy states "that, for compatibility, interoperability, and integration, all C3I systems developed for use by U.S. forces are considered to be for joint use". This new aspect of policy makes Service/Agency unique solutions to C3I requirements the rare exception rather than a common occurrence. The Department has undertaken other efforts to enhance joint interoperability. Two recent examples are the designation of the Army as the Executive Agent for tactical switches and a new initiative to develop a Tactical Data Link Management Plan to deal with data link proliferation and interoperability.

The Joint Staff's C4I for the Warrior concept which is supported in the new DoD policy and procedures is continuing to evolve. The Joint Staff has established C4I for the Warrior architecture criteria to be reflected in all C4I architectures. The DISA's Center for Standards is taking the lead as the DoD Standards Executive Agent in coordinating and supporting the information technology standards requirements of the Services/Agencies.

In summary, the new policy and procedures are being implemented DoD wide. They apply to all C3I systems, not just tactical systems. They require that all C3I systems be certified for interoperability by the DISA which is critical to production approval.

Question. The resources for Command, Control, and Communications (C3) systems are in the Military Service and Defense Agency budgets. What authorities do you have to fix deficiencies in Military Service and Defense Agency C3 systems?

Answer. Department of Defense (DoD) Directive 5137.1, "Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C3I))", formally grants oversight authority for Service and Defense Agency C3 programs to the ASD(C3I). The ASD(C3I)'s authority on acquisition-related matters is further outlined in DoD Directives 5000.1, "Defense Acquisition" and 5000.2, "Defense Acquisition Board (DAB)". Through these granted authorities the ASD(C3I) chairs the Major Automated Information Systems Review Council (MAISRC) and the C3I Systems Committee of the DAB to identify deficiencies in major C3 systems and to recommend proposed corrective actions.

For all C3 systems, the ASD(C3I) exercises oversight authority through participation in the Planning, Programming, and Budgeting System (PPBS) process to resolve deficiencies in Military Service and Defense Agency C3 systems. This participation includes the review of the Service and Defense Agency Program Objective Memoranda (POM) submissions and Budget Estimate Submissions (BES). As the reviews progress, the ASD(C3I) identifies deficiencies, along with potential corrective actions and necessary funding adjustments, for consideration by the Deputy Secretary of Defense. fense.

ARMY TACTICAL COMMAND AND CONTROL SYSTEM (ATCCS)

Question. The Army Tactical Command and Control System is a "system of systems." It consists of nine pieces: five command and control segments, three communications systems, and a common hardware and software system. The Army Tactical Command and Control System automates the command and control functions in the Army battlefield and modernizes the communications capabilities.

To date, the Army has spent approximately $9 billion for the Army Tactical Command and Control System. The communications systems are currently being delivered. An interim version of one of the Command and Control System segments has been fielded. The remaining four automated command and control systems are still in the development and testing phase. Dr. Quinn, what is the delivery schedule for the Army Command and Control System?

Answer. The delivery schedule for the five automated command and control systems of the Army Command and Control System is as follows:

Advanced Field Artillery Tactical Data System (AFATDS). Scheduled to complete Initial Operational Testing and Evaluation (IOTE) in the spring 1994. The Initial AFATDS Operational Capability will be delivered to the field in the summer 1995.

All Source Analysis System (ASAS). Currently undergoing IOTE. The Initial Operational Capability (Block I) will be delivered to the field in the summer 1993. The objective ASAS (Block II) will be delivered to the field in 1997.

Combat Service Support Control System (CSSCS). Scheduled to complete operational testing (IOTE) in the spring 1994. The initial CSSCS Operational Capability will be delivered to the field in early 1995.

Forward Area Air Defense Command and Control System (FAAD C2). Block I (Light and Special Divisions) has completed operational testing and is scheduled to begin delivery to the field in the summer 1993. This will be the Initial Operational Capability. The objective FAAD C2 System (Heavy Divisions) will begin delivery to the field in the summer 1996.

Maneuver Control System (MSC). An Initial Operational MCS Capability was fielded in September 1985. The next evolution of the MCS system was scheduled to begin delivery to the field in FY 93. However, technical problems caused the contract to be discontinued. The MCS contract is scheduled to be recompleted in the fall of 1993 with the next evolutionary Initial Operational Capability scheduled for delivery to the field in 1995.

Question. Will the Army Command and Control System be delivered as an integrated system?

Answer. No. The Army Tactical Command and Control System (ATCCS) will not be delivered as an integrated system but eventually will evolve into an integrated system as the individual systems mature, are tested and delivered to the field. This fact was well known at the time the ATCCS concept was accepted by Congress, OSD, and the Army in the mid 1980 timeframe. The situation that caused this approach was that the nine systems that comprise the ATCCS were in different stages of the acquisition cycle when the ATCCS concept was developed. In order to continue the development and fielding efforts for the systems, the Army developed a phased acquisition and testing strategy that ensured ATCCS evolved into an integrated system as its individual components matured and were fielded. The operational testing concept for ATCCS integration and interoperability is documented in the ATCCS Test and Evaluation Master Plan. This concept requires each ATCCS component system to be operationally tested as a stand alone system against its defined requirements. Additionally, each of the systems are operationally tested with ATCCS systems that are already fielded to ensure ATCCS system-wide integration and interoperability requirements are met prior to fielding. This approach will ensure that the ATCCS will be intergrated and interoperable, demonstrating the exchange of data as each system is added and fielded while ensuring that the total ATCCS remains interoperable.

Question. Dr. Quinn, what are the technical problems with the Army Tactical Command and Control System?

Answer. Technical problems with the ATCCS program are as follows:

All Source Analysis System (ASAS). The complexity of the software development effort (in excess of 1 million lines of code), multilevel security and a "Grand Design" acquisition strategy were contributing factors to the technical problems with this system. The Army has restructured the ASAS program, with OSD approval, to field an interim system and recompete the contract for the objective ASAS system. The Army will use an evolutionary acquisition strategy with associated rapid prototyping and heavy user involvement with an open systems architecture to mitigate the technical risk associated with the follow-on system.

Maneuver Control System (MCS). The inability of the current contractor to produce acceptable software (Version 11) has caused the Army to discontinue the MCS contract. This has significant technical impact on the ATCCS program as the MCS Version 11 software was to provide horizontal integration of the entire ATCCS through the Force Level Control System. To mitigate this technical problem, the Army has restructured the MCS program to include using an evolutionary acquisition strategy with rapid prototyping, open systems architecture and heavy user involvement. The Army plans to recompete the MCS contract in FY 94.

To mitigate the technical problems associated with horizontal interoperability of the ATCCS, the Army had adopted an approach using the Common Army Software System (CASS) to provide the horizontal interoperability for the ATCCS. Much of the CASS already exists and remaining modules are already under development through existing software contracts.

Common Hardware (CHS). Some technical problems have developed associated with the need for hardware technological enhancements such as computing and memory enhancements. The Army has mitigated these through upgrades of existing CHS 1 as required and will ensure the follow-on CHS 2 contract meets user needs.

There is a low technical risk associated with the Army Field Artillery Tactical Data System (AFATDS), the Combat Service Support Control System (CSSCS) and the Forward Area Air Defense Command and Control System (FAAD C2).

Question. Dr. Quinn, do you have a cost to complete for the Army Tactical Command and Control System?

Answer. The cost to complete the ATCCS is $5.0 billion dollars. This total is further broken down as follows: a. The cost to complete the five automated segments of the ATCCS is $2.3 billion. b. The cost to complete the three communications systems of the ATCCS is $2.7 billion.

Question. During recent years the Army has stated that Command and Control is one of its highest priorities. During the recent budget formulation process, the Army made significant cuts to the Army Tactical Command and Control System. Why did the Army cut funding in the FY 1994 request for the Army Tactical Command and Control System?

Answer. Command and control systems are still a priority for the Army. The aforementioned cuts were forced cuts imposed on the Army due to budget constraints. The funding cuts to the ATCCS programs were based upon careful analysis of each system and were made knowing that each decision would have minimal impact on ATCCS. Reasons for the funding cuts are as follows:

All Source Analysis System (ASAS): The FY 94 decrement had no impact on the ongoing fielding of the ASAS Block 1 system to critical Force Package 1 units.

Forward Area Air Defense Command and Control System (FAADC2). The FY94 decrement had no impact on the FAAD C2 Version 3, Block 1 fielding to three Light and Special Divisions.

Maneuver Control System (MCS). Contractor software development problems delayed the procurement and fielding of the MCS system. The reduction of the FY94 procurement funds was warranted based on the revised schedule.

Question. How will the funding cuts affect the progress of the Army Tactical Command and Control System?

Answer. The funding cuts will cause the following changes:

ASAS. There will be a delay in the development of the ASAS Block 2 system of approximately one year.

FAAD C2. There will be an approximate 1 year delay in the development of the Version 4 software that will be fielded to the Heavy Divisions.

MCS. The funding cut to MCS and resultant decision to discontinue the current software development effort will cause a delay of 1 year in development of the next software version for the MSC. Additionally, horizontal interoperability of the ATCCS program will be affected since this was to be accomplished in the Version 11 software for MCS.

LIFE-CYCLE SOFTWARE ENHANCEMENTS

Question. When we discuss modernization of Army communications systems, the focus is usually on developing and fielding hardware. Yet, with the gradual merging of communications and computer technologies, one of the most cost effective ways that modernization can take place is through planned upgrades to the software that does the "thinking" for a communications system. How much is included in the Army's fiscal year 1994 request for what is called Life-Cycle Software Enhancements?

Answer. There is no single budget line that identifies Life-Cycle Software Enhancements. Funding for this is spread among many systems as every program that includes software development will normally have funding for software enhancements and software lifecycle support.

Question. Is that amount sufficient to cover the requirement?

Answer. Considering the constrained Army fiscal levels, the requirement for life-cycle software enhancements is funded at a minimum essential amount to provide critical software changes to the systems on a priority basis. Requirements beyond that level will have to be funded on a trade-off basis.

Question. It is the Committee's understanding that in the outyears, the Army has budgeted only half of the funds required to perform the required software improvements. Is this understanding correct?

Answer. It is very difficult to forecast where evolutionary software intensive developments will be in the outyears as requirements and other factors such as force structure and threat may change the pace of the software enhancements. However, the Army has attempted to balance its limited resources to support the most mission-essential life-cycle software enhancements.

Question. The Committee believes that when DoD buys equipment of any kind, it must budget sufficient funds to adequately operate, maintain, and fully utilize that hardware over its entire lifetime. Otherwise, it is wasting money. Do you believe that the fiscal year 1994 and outyear budgets are properly balanced between acquisition and software enhancements?

Answer. At this point in their maturity, we believe there is proper funding in FY94 and FY95 to support both software acquisition and life-cycle software enhancements. We must ensure that the software being developed adequately meets user requirements before going on with new enhancements. Given the progress of these software-intensive systems at this stage, the funding balance appears acceptable, at least in FY94 and FY95. As we develop outyear funding requirements, we continuously review the software maturity of these programs and adjust funding levels accordingly.

Question. For the record, please provide individual breakouts for fiscal years 1993 and 1994 that show how much was planned in each budget year for Life-Cycle Software Enhancements during fiscal years 1990, 1991, 1992 and 1993?

Answer. As identified in the response to the previous question on FY94 funding, there is not a budget line for Life-cycle Software Enhancements as funding for this requirement is included in the funding for each individual program.

SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (SINCGARS)

Question. SINCGARS is a frequency-hopping jam-resistant radio communications system for infantry, armor, artillery, and Army aviation units. The fiscal year 1994 budget requests $352.5 million to procure 21,636 ground radios, 126 airborne radios, and 10,260 data transfer devices. This represents an increase of $135.4 million over the fiscal year 1993 level. What is the Army's total requirement for SINCGARS radios and how does that compare with what you believed your requirement to be last year?

Answer. The Army's total requirement for SINCGARS is 213,000 radios. This quantity is unchanged from last year.

Question. The large increase in the fiscal year 1994 request is primarily due to 7,000 more ground radios being procured. What would be the impact of holding the ground radio procurement at the fiscal year 1993 level of 14,769?

Answer. The operational impact would be the delayed fielding of SINCGARS to two Army divisions with the attendant Operations and Support Cost penalties of maintaining the existing obsolete VRC-12 radios.

Question. ITT is already in full production on the ground radios and General Dynamics has been awarded a contract to begin Low Rate Initial Production as a second source. Are both contractors currently meeting the Army's cost, schedule and performance goals?

Answer. Both contractors are on schedule, meeting or exceeding all performance requirements and delivering under fixed price contracts (no cost growth).

Question. In March of 1994 the Army will award competitive contracts to ITT and General Dynamics for continued production of the ground radios, with the firm submitting the best bid receiving a larger share of the production. The schedule calls for the Request for Proposal (RFP) to be issued this month (May). Has that occurred?

Answer. The draft solicitation has been issued to both contractors. Upon approval of the Acquisition Strategy Report and RFP by the Under Secretary of Defense for Acquisition, it is anticipated that the formal RFP will be released in June.

Question. Do you believe you will be able to meet the planned March 1994 contract award?

Answer. Yes, all indications are that the Army can meet the planned March 1994 award date.

Question. The Army budget justification books project a unit cost of approximately $11,500 for the fiscal year 1994 buy of 21,000 ground radios. That appears to be around the same price paid for the previous radios. Since ITT and General Dynamics will be competing head-to-head for the 1994 buy, why isn't the unit cost lower?

Answer. The FY 1993 unit costs reflect the very favorably priced General Dynamics (GD) Option 3 unit prices, which represents the last year of their existing firm fixed price contract. However, this price vs. quantity relationship should not be viewed as reflective of future costs since GD may have initially underestimated their costs. FY94 costs reflect a more realistic estimate of the anticipated price/quantity relationship to be obtained in competition. The significantly higher quantities in FY94 drive the unit costs down sufficiently to where they approach FY93 costs. Should FY94 quantities be reduced, unit costs would be higher than those of FY93.

Question. With the decreasing defense budget, one concern is that firms may bid artificially low to ensure winning a contract and then not be able to perform adequately because they aren't covering their costs. In general terms, are both ITT and General Dynamics both strong financially?

Answer. ITT and General Dynamics shareholder reports reflect financially healthy and focused companies fully capable of performing in a competitive environment. The Army has indicated that they have no concerns regarding the financial viability for either of these companies. We agree with their assessment.

Question. It is the Committee's understanding that General Dynamics is possibly losing as much as $140 million on SINCGARS. Is that true? If so, will it eventually affect their performance on the contract?

Answer. Yes, GD has reported to their shareholders a potential $142 million loss on their existing SINCGARS contract. The executive leadership of the corporation has assured the Army this loss will not affect their contractual performance. This commitment has been verified by their contractual performance to date as they continue to deliver a quality radio, on-time and at contract prices.

DEFENSE SATELLITE COMMUNICATIONS SYSTEMS (DSCS)

Question. The Defense Satellite Communications System provides a large portion of the existing satellite communications capability. A total of $85.1 million is requested in fiscal year 1994 for Army costs associated with ground operations and use of DSCS. Although only $4.4 million is requested in fiscal year 1994 for improvements to Jam Resistant Secure Communications (JRSC), the Army plans to spend a total of $155.4 million through fiscal year 1999. The bulk of these funds will go toward improving DSCS capabilities during high altitude nuclear detonations. With the greatly reduced threat, why are these expensive improvements necessary?

Answer. Today, the only survivable satellite communications capability is the JRSC. For a limited number of users, it can survive both nuclear scintillation and electronic jamming environments. The $4.4 million in FY94 will be used to fund survivability modifications to 32 AN/GSC-49 terminals. The modifications include fiber optic cables for remote terminal locations and the automatic switchover of the terminal transmitter. While the threat is greatly reduced, it is not eliminated. DSCS will provide survivable connectivity for Tactical Warning and Attack Assessment and Command Centers into the next century when a worldwide deployment of Milstar satellites assumes this mission. The $155.4 million programmed within the FYDP is not for nuclear survivability. Of that total, $108 million is programmed for a new interoperable, anti-jam Universal Modem that will replace the existing AN/USC-28 modem which was initially fielded in the late 1970s. The remaining approximately $47 million is programmed to fund a life extension program of the 32 AN/GSC-49 terminals and to replace obsolete components in the AN/USC-28 for high data rate users.

Question. The first Milstar satellite will be launched late this year which will begin to provide a very robust capability to communicate during nuclear war. Why do we need to improve DSCS and also deploy Milstar to communicate during nuclear war?

Answer. The Milstar program will not provide worldwide connectivity until the year 2002 under the current development schedule. Until that time, DSCS will provide survivable, worldwide connectivity.

ARMY MILSTAR TERMINALS

Question. With the change in Milstar from emphasizing strategic communications to emphasizing tactical communications, the Army will become one of the principal users of Milstar. Several years in a row, the Army tried to delete all of its Milstar terminal funding and was forced to restore it by the Secretary of Defense.

Does the Army now fully support the Milstar program?

Answer. Yes. Upon Congressional direction to restructure the Milstar program to support the tactical warfighter, the Army joined in the effort and fully supports the current program. This revised program added medium data rate capability which is vital to the Army for command and control of its tactical war fighting forces.

Question. Does the fiscal year 1994 Army request of $109 million in procurement and R&D represent a fully funded program?

Answer. Yes. The FY94 budget request funds development of two tactical terminals—the Single Channel Anti-Jam Manportable Terminal (SCAMP) and the Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T)—and procurement funds for deployment of the Air Force developed Ground Command Post Terminals to Army supported locations.

ARMY DATA DISTRIBUTION SYSTEM (ADDS)

Question. In Fiscal Year 1994, the Army is requesting a total of $33.8 million for the Army Data Distribution System. One of the capabilities of this system is the reporting of precise Army unit locations through the Enhanced Position Location Reporting System.

The entire DoD is very quickly moving to use of the Global Positioning System or geolocation. Why is it necessary to field a unique Army system instead of adapting an existing Army communications system such as SINCGARS to report back to higher echelons?

Answer. The Army has no intention to field a unique system (ADDS) solely for the purpose of providing geolocation information. The ADDS system is being fielded in the Army as a robust communications system designed primarily to meet data distribution requirements of the Army Tactical Command and Control System (ATCCS). Additionally, the ADDS has other capabilities such as providing unit locations and unit identifications. All of these multifunctions are provided in one piece of equipment. In the Army's three tier ATCCS communications architecture, ADDS, SINCGARS, and the Mobile Subscriber System (MSE) each have individual primary functions to support the ATCCS users. Each are required to complement the other to ensure communications are available to meet user requirements.

Question. If the Army is committed to fielding the Enhanced Position Location Reporting System, why are there no funds budgeted for fiscal year 1996 or beyond?

Answer. Since the ADDS has not completed technical or operational testing, and in light of the on-going downsizing of the military forces, the Army is conducting a review of needlines to determine data distribution requirements for the future. Based upon the results of this study, it is expected that the Army will determine which system(s) are required to meet their data distribution needs and identify the necessary funding in the FY96 budget.

Question. Even if the Army puts sufficient funds in fiscal year 1996 and beyond, the Committee has been told that the program is still underfunded in fiscal year 1994. Is that correct, and if so, by how much is the budget short?

Answer. The Enhanced Position and Location Reporting System program is adequately funded in FY94. There was a shortfall in the JTIDS program for FY94, but the Army has identified $7.7 million in RDT&E funding to alleviate this shortfall.

MOBILE SUBSCRIBER EQUIPMENT (MSE)

Question. One of the success stories of the Army communications program has been the $4 billion Mobile Subscriber Equipment Program. A total of $45.8 million in procurement funding is requested in fiscal year 1994 for what are called "war fixes". Specifically, how will these funds be used?

Answer. The MSE budget line includes a number of initiatives in addition to the "wart" repair program. The work effort budgeted in FY94 includes MSE contractor technical assistance, New Equipment Training (NET) and Total Package Fielding (TPF) for Army units being fielded in FY94. In addition, it includes NET and TPF for the Network Planning/Management tool to include Radio Access Unit planning tool function, improved frequency management capability for MSE network managers and automatic down loading and collection of critical NCS network status data. In addition to the work identified above, there are four basic wart fixes programmed for FY94. They include:

STU III interface.—Provides the MSE interface which enables the user to employ STU III telephones within the MSE network. This capability permits the tactical user to communicate with the strategic/sustaining base.

Conference Bridge.—Increases the reliability, capabilities and capacity of the current MSE conference bridge. Primary need is related to early warning and notification for the Air Defense community to enable quick reaction to enemy force air attack.

Man-Machine interface.—Provides a more user-friendly MSE backbone system. Improves system operation, maintenance and training. Improves the system operator's response time to troubleshoot problems, thereby enabling the MSE system to respond to service outages.

MSE System Control.—COMSEC Screen: Improves the existing System Control Center (SCC) COMSEC screen to provide a user-friendly, efficient tool for COMSEC management. Near-Real Time System Management: Automation of the downloading and collection of critical network traffic and status data at the MSE network control center.

Question. Unlike most other Army equipment, GS and depot level maintenance and repair is done by the contractor who manufactured the original equipment. Why has the Army taken this approach to maintenance?

Answer. The acquisition/logistics philosophy at the inception of the MSE program centered around the life-cycle support of MSE unique non-standard items. Depot level contractor maintenance for these non-standard items was integrally tied to the question of item obsolescence. The Army required GTE to be responsible for form, fit and function replacements for items which became obsolete over the life cycle of the system. For this risk avoidance, GTE was assured the business of life-cycle support (spare and repairs) for all MSE unique/non-standard items. It must be emphasized that all MSE standard items are supported by the Army. An additional consideration in choosing the contractor to perform GS and Depot Level maintenance on MSE-unique components was the avoidance of cost associated with the establishment of those maintenance systems (e.g., acquisition of data rights, drawings and special tools/test equipment).

Question. If the depot repair were to be done in Army facilities, where could the work be performed?

Answer. Contractual constraints dictate the extent of repair which can be done at Army facilities as stated above. It must be emphasized, however, that the Army is continuing to analyze all MSE unique items, as the program progresses, to see whether or not the Army should assume support of these items. During the course of the contract, given contractual constraints, many items have shifted from the GTE support contract to Government support. For example, at this time the Army is conducting a study which would identify maintenance task for items which could be repaired by the Army at Direct Support, rather than the Contractor General Support. In addition, another Army study is attempting to isolate items which could be repaired at MSE's Regional Support Centers, rather then the contractor depot. Both Army studies could result in decreased repair costs, faster turnaround time and a decrease in spare pipeline requirements. Determination of the advisability of moving items from contractor to Government maintenance will be made on a life-cycle cost analysis. It will address areas such as costs associated with data rights, technical manual impact, training impact, spares acquisition special tools and test equipment and contractual modification.

Question. How do the costs compare between performing the work in government facilities versus by the contractor?

Answer. The Government has an ongoing process to move items from contractor support to Government support when it makes good business sense. The acquisition philosophy at program inception defines the parameters and cost comparisons that are conducted. Based on life-cycle cost analysis, the current use of contractor support continues to make good business sense.

Question. If repair is required in the field, does that mean that contractor technical representatives would have to deploy into Bosnia with the Army Signal Battalions if the President and the Congress were to direct such a deployment?

Answer. Currently, the Army does not have the capability to perform operator and direct support maintenance in the field. If a decision to deploy an MSE equipped unit to Bosnia was made, the decision to also deploy GTE technical representatives would be based upon several factors including: the amount of equipment deployed, the level of involvement anticipated, the amount of area to be covered, the experience of the unit working with MSE and the ease of evacuating unserviceables from country and returning serviceable assets.

In Southwest Asia, the Army decided to deploy a forwardly based Regional Support Center (RSC) along with the troops. This proved to be an effective manner in supporting the large force (mostly equipped with MSE) deployed in theater. The deployment of the 10th Mountain Division, along with elements of the 327th Signal Battalion, to Somalia did not require an RSC, however, several GTE technical representatives did (successfully) support the mission.

Finally, it should be noted that the MSE (and contract) is organized in such a manner as to support a unit deploying to Bosnia (or any other tactical environment) with either individual contractor technical representatives or a fully functional RSC. In addition, units are invariably accompanied by their MSE trained Communications Electronics Command Logistics Assistance Representatives, who offer further assistance to the units in the area of maintenance/supply support.

TRI–TAC COMMUNICATIONS PROGRAM

Question. $10.2 million in procurement and $16.5 million in R and D is requested in fiscal year 1994 for the Army TRI–TAC Echelon Above Corps communications programs.

In fiscal years 1992 and 1993, a portion of the procurement funding was used for fabrication support for the AN/TRC–170 terminal at Tobyhanna Army Depot. Why are no funds being requested for this effort in fiscal year 1994?

Answer. There is no requirement for FY94 funds for the AN/TRC–170 fabrication effort at Tobyhanna Army Depot. FY93 funds are currently in place at the Depot to complete the long lead fabrication efforts associated with the AN/TRC–170 (V)2 and (V)3 systems. These efforts will complete the 4th quarter 1994 fielding of an AN/TRC–170's to the Army National Guard.

Question. The R & D request of $16.5 million represents a significant increase over the fiscal year level of only $7.2 million. Why is there such a significant increase in this funding line?

Answer. The additional RDT&E funding is for the Integrated Systems Control (ISYSCON).

LOCAL AREA NETWORK

Question. The Army is requesting $17.5 million in procurement funds in fiscal year 1994 for the installation Backbone Local Area Network program. This represents a significant increase over the fiscal year 1993 level of only $5.3 million.

Why is there such substantial growth in one fiscal year?

Answer. IN FY93, the Army requested $29.3 million to support upgrade and installation of backbone local area networks at various installations. This amount was reduced $23.8 million by the House and Senate Committees because many uncertainties remained.

The Army has identified the priority of all bases for the installation of backbone local area networks, as well as other elements of the telecommunications infrastructure which must be improved so that the installations are better postured to support force projection. The Army is ready to move ahead with the installation and upgrade of backbone local area networks on high priority installations.

Question. Specifically how will these funds be used?

Answer. The Installation Sequence List provides the priority in which Army bases will receive upgrades to their telecommunications infrastructure. The first installation on the list is Fort Bragg, North Carolina. The funds requested in FY94 will be used to install a backbone local area network at Fort Bragg.

PENTAGON TELECOMMUNICATIONS CENTER

Question. The budget requests a total of $3.5 million in fiscal year 1994 for the Pentagon Telecommunications Center System. Approximately half, or $1,790,000 of this request is to replace two central processing units at Site R.

With the political and military changes that have taken place in the world, why is it necessary to upgrade the communications capability at Site R?

Answer. Site R is the primary facility that provides Automatic Digital Network (AUTODIN) traffic and messaging services for the Joint Staff. Site R also serves as a backup facility for messaging service to the State Department, Central Intelligence Agency, Defense Nuclear Agency, and other non-Department of Defense activities. Site R must be a minor image of the Pentagon Telecommunications Center to provide Continuity of Operations (COOP) support if required.

While the risk of attack against the United States by a competing superpower has been reduced, the threat of terrorism or natural disaster remains. Upgrading the existing facility at Site R to provide backup support to many governmental agencies guarantees continuous support in any emergency.

Question. How much of the $3.5 million total request is for improvements at Site R?

Answer. The only portion of the request that is for improvements at Site R is the $1.79 million for the two central processing units.

JOINT TACTICAL INFORMATION DATA SYSTEM (JTIDS)

Question. In Fiscal Year 1994, the Army is requesting no procurement funds for JTIDS (pronounced "jay-tids"). The request then jumps to $70 million in fiscal year 1995, and finally drops back down to virtually nothing again in fiscal year 1996.

Why is the procurement profile so uneven?

Answer. The JTIDS Class 2M program remains in RDT&E through FY94 and begins procurement in FY95. The FY95 request procures 65 Class 2M terminals, supports program management, procures government furnished equipment and provides Life-Cycle Software support. Funding is required for FY 1996–FY 1999 to field and support these 65 terminals. Based on the results of an ongoing needline data distribution study, the Army is expected to identify funding in the FY96 budget to support the fielding of the JTIDS assets and procure additional JTIDS terminals to meet additional Army requirements.

Question. What would be a smoother procurement phasing?

Answer. Based on the current Army plan to procure only 65 Class 2M JTIDS terminals, buying all of them in FY95 (at minimum sustaining rate) is the most economical way to proceed. Additional funding is required to manage and field these terminals as follows:

[Dollars in millions]

	Fiscal year 1996	Fiscal year 1997	Fiscal year 1998	Fiscal year 1999
OPA	5.8	7.1	7.8	4.5

Should the Army's needline study identify the requirement for more JTIDS terminals, more detailed information would be needed before a smoother procurement phasing plan could be provided.

SUBMARINE LASER COMMUNICATIONS PROGRAM

Question. In fiscal years 1992 and 1993, the Congress appropriated a total of $25,000,000 for the submarine laser communications project. The intent was for the Navy to perform fleet demonstration of a laser communications system between an aircraft and a submarine built upon technologies previously developed by ARPA.

What is the status of the demonstration project?

Answer. The fleet demonstration project was not initiated. In addition, the Enhanced Advanced Technology Satellite Demonstration proposed for fiscal years 1994–1997 was not initiated.

Question. How much of the $25,000,000 has been obligated to date?

Answer. No funds have been obligated. A small amount was lost due to inflation cuts.

Question. How much has been requested in fiscal year 1994 for this program?

Answer. No funds were requested in FY94.

Question. Do you foresee a requirement for laser communications to submarines either from aircraft or satellites?

Answer. No.

AN/ARC–210 RADIO

Question. Last year the committee included report language questioning the Navy plan to continue buying the ARC–182 when the more modern ARC–210 radio was available for installation in military aircraft. The budget for fiscal year 1994 requests only $500,000 in R&D for the ARC–210. What is the procurement profile for both the ARC–210 and the ARC–182 radios in the FY 1994 budget?

Answer. The ARC–210 will be entering production (Milestone-III) this summer. It is still in the R&D Phase and will not be ready for procurement until after Milestone-III. The Operational Support Implementation Plans (OSIP) have been written for the various platforms that are to receive the ARC–210 and installation schedules are being written to meet this procurement schedule. A limited number of aircraft can be updated each year, thus the ARC–182 and spares will be retained for a few more years and must continue to be supported.

ARC–210 FY94 R&D, $0.508M; APN $41.7M.
ARC–182 FY94 R&D, 0.00M; APN 3.5M.

Question. The Army procures the ARC–201 radios to meet the same requirements. Why does the Navy need a different radio than that used by the Army for the same purpose?

Answer. The ARC–201 is VHF/SINCGARS air-to-ground capable only. The ARC–201 is not Ultra High Frequency (UHF)/Have Quick capable which is used for air to air communications. Both radios employ frequency hopping for anti-jam capability, but the ARC–201 includes only one of these capabilities whereas the ARC–210 includes both VHF/SINCGARS air to ground and UHF/Have Quick air to air capability.

The Navy feels the requirement exists for an aircraft to have both VHF and UHF capabilities in order to be fully mission capable in today's environment. The mission requirements of DESERT STORM proved this concept.

EXTREMELY LOW FREQUENCY COMMUNICATIONS

Question. The Navy is requesting a total of $12.7 million in fiscal year 1994 for the Extremely Low Frequency communications system to be able to communicate to submerged nuclear missile submarines during a nuclear war. Given the controversy which has surrounded this program and the change in the world situation, why is it necessary to continue operating it?

Answer. The Extremely Low Frequency (ELF) communications system is a peacetime system which greatly improves both attack and ballistic missile submarine survivability and enhances operational effectiveness. ELF is the Navy's only means for communication directly to submerged submarines operating at speed and depth. ELF allows us to command and control our submarine forces without placing constraints on their operations. With ELF we improve submarine survivability and operational effectiveness. Specifically, attack submarine support to a carrier battle group is greatly enhanced. No longer will an attack class submarine have to periodically come to the surface to see if there is message traffic for them. ELF allows us to send information of interest to a submarine without having to wait until the next scheduled broadcast or call them to the surface when required.

Question. The budget indicates that you intend to develop and field an advanced data rate capability for the system. Specifically what will the development effort accomplish?

Answer. This effort will increase the ELF data rate by a factor of 3.8. It will allow the use of ——— different messages up to ——— bits long. This compares with the current system which can only support a ——— characters) message.

Question. What is the total cost of development?

Answer. $8.2 million through FY99.

Question. How much is budgeted in what appropriations for this effort in fiscal year 1994?

Answer. $0.6 million in RDT&E funds.

AIR FORCE MILSTAR TERMINALS

Question. In a report dated April 13, 1993, the DOD Inspector General concluded that "the decision to award the production contract for the 61 remaining command post terminals, at an estimated cost of $300 million, would commit the Air Force to build, deploy, and support the total planned buy of command post terminals when significant questions of design and operational suitability have not been answered." Does the Air Force agree with the Inspector General's considerations?

Answer. No. The Air Force does not concur with the conclusions and recommendations addressed in this report.

Question. The IG report also concluded that "the planned tests that involved the Air Force Milstar terminal interfacing with an on-orbit Milstar satellite would not be done before the planned terminal production decision." Why is the Air Force planning to order all its terminals before it has a chance to complete testing on the first satellite?

Answer. The Air Force contends sufficient testing was completed to justify purchasing the remaining Milstar command post terminals. This was a major issue in preparation for the October 1992 Milstar Defense Acquisition Board (DAB). After considerable review, the Director of Operational Test and Evaluation (DOT&E) and Assistant Secretary of Defense for Production and Logistics staffs concluded that the risk of a command post terminal buy-out in advance of operational testing did not warrant the added expense associated with an 18 month delay (estimated by the Air Force at approximately $144 million) and recommended proceeding with the command post terminal buy-out. This recommendation was conditioned on successful completion of an independent Operational Assessment and a Reliability-Qualification test. The Operational Assessment was conducted by the Air Force Operational Test and Evaluation Center who found no show stoppers in meeting the threshold requirements. The Reliability-Qualification test was successfully completed in January 1993.

Question. According to the IG report, the only tests done with an on-orbit satellite were done with the Navy Fleet EHF Package. However, the Navy payload has several significant differences from Milstar in that it lacks agile beam antennas and because several other functions are either implemented differently or not available at all. Does the Air Force consider these differences significant?

Answer. The Air Force was fully aware of the differences between Milstar and the Navy Fleet EHF Package (FEP). Testing conducted with FEP was only to verify top-level system performance. Numerous other in-plant tests conducted in 1987, 1988, and 1989 validated terminal-to-satellite performance to include waveform, agile beam, crossbanding, and other technical interoperability tests. These tests culminated in a major test in September and October 1992 where the Air Force, Army, and Navy terminals were brought together to perform "over-the-air" tests with Satellite 1 located in the plant. This test verified terminal to satellite compatibility and interservice interoperability. It identified no significant Air Force command post terminal discrepancies and proved the terminals ability to support operations.

Question. During operational testing, the Air Force's own testing agency concluded that the terminal Central Processing Unit and Memory Usage did not meet contract specifications. Has this problem been resolved?

Answer. The adequacy of the existing margins in memory and Central Processing Unit utilization and plans to improve them were briefed to the Air Force Program Executive Officer for Space and DOT&E during the 1992 DAB review process and approved.

Question. According to the IG report, it appears that the Air Force will buy-out the entire command post terminal program with a Low Rate Initial Production contract. Is that true?

Answer. Yes. Following extensive OSD and Air Force staff discussions, the Air Force awarded two contracts on May 28, 1993 to buy-out the remaining 44 command post terminals.

GROUND WAVE EMERGENCY NETWORK (GWEN)

Question. The Ground Wave Emergency Network is an Air-Force communications system that would link military and civilian headquarters in the event of a nuclear attack and more conventional communications are not operating. What is the status of this program?

Answer. The Ground Wave Emergency Network (GWEN) system designed to provide assured emergency communications to our CONUS based strategic forces is fully developed and procured. All of the planned Input/Output and Receive Only terminals have been installed and are operational. Fifty-four of the planned 83 relay nodes have been installed. Delivery of all equipment for the remaining 29 nodes is complete. The equipment has been in storage since August 1990. The completion of antenna site construction was delayed pending a Congressionally mandated health study of the effects of GWEN radio transmissions. That study, by the National Academy of Sciences, was completed in December 1992 and found no evidence to suspect any adverse health effects from GWEN.

Question. With the launch of the Milstar satellite this year and another next year, what is the continued requirement for GWEN?

Answer. If we were to deploy Milstar receive terminals at all locations currently equipped or planned (ICBM Launch Control Centers (LCCs) and bomber dispersal bases) to have GWEN Low Data Rate (LDR) receive terminals and we had a viable satellite constellation, then there would be a need for GWEN. Unfortunately, it will take until FY98 to procure and deploy the necessary LDR terminals assuming the Milstar program proceeds as planned.

We agree that the threat of nuclear war has lessened. However, current policy still requires that we maintain ICBMs, SLBMs, and supporting command and control assets on alert in support of nuclear deterrence. As long as our nuclear forces are required on alert or the possibility exists that additional forces will be placed on alert at some future date in response to an aggressor, USCINCSTRAT must have the capability to disseminate his Positive Control Launch or survival launch decision in a nuclear stressed environment. The lack of a survivable communications system reduces the amount of decision time available and would require USCINCSTRAT to make his force survival decision based on the detection of a single missile. With no survivable connectivity to alert forces, the single missile event must be assumed to be a High Altitude Burst which would degrade the more conventional communications systems not designed to operate in a nuclear environment ———.

Question. How much is included in the fiscal year 1994 budget (and in what appropriations) for GWEN?

Answer. RDT&E—$0.301 million; O&M—$6.5 million.

GUARD AND RESERVE C3I PROGRAMS

Question. Last year the Committee included bill and report language directing DoD to identify C3I programs that could be transferred into the Guard and Reserve as the active forces were significantly reducing their strength levels. At the Committee's direction, the Air National Guard has established a C3I planning office to serve as the focal point for this effort. Is the Office of the Secretary of Defense providing the necessary support to the Air National Guard to ensure that the initial planning efforts are successful?

Answer. Yes. Under the guidance of the Office of the ASD(C^3I), a three-person office has been established and is functioning in the Air National Guard, working on the long range planning to assume selected C3I missions. The Committee had also directed the granting of necessary security accesses, additional billets, and working space. To date, however, this additional administrative support has not been required; but the OASD(C3I) remains prepared to assist the Air National Guard, as appropriate.

The OASD(C3I) sponsors and chairs a working group comprised of Service and staff members to determine which C^3I functions could appropriately be transition to the Guard and Reserve. Among those areas under discussion are; broad area search imagery, civilian communications satellites, tactical warning/attack assessment, tactical signals intelligence aircraft, and other classified missions.

Question. What specific C3I missions have been identified for transfer to the Guard and Reserve forces?

Answer. While no specific C3I missions have yet been transition, preliminary analysis is being conducted in the following mission areas:

Pave Paws Radars: These radars were designed primarily to provide early warning of SLBM attacks. We are currently studying the feasibility of the Air National Guard taking over the tactical warning/attack assessment missions of two to four of these sites.

4th Space Communications Squadron: Is the survivable, mobile element of the Defense Support Program (DSP). We are conducting a feasibility analysis of this mission.

721st Mobile Command and Control Squadron: Is USCINCSPACE's survivable command and control platform. We are continuing the analysis of potential Air National Guard responsibility for this mission. AFSPACECOM is staffing an internal proposal at this time.

Utah National Guard: We are considering this organization for employing tactical signals intelligence aircraft in a developing pilot program.

Question. For the record, please provide a detailed listing of C^3I funds requested in fiscal year 1994 by Guard and Reserve Component and appropriation.

Answer.

	Millions
O&M:	
ARMY;	
O&M(O&MARNG)	29.5
O&M(O&MAR)	64.6
NAVY:	
O&M(O&MNR)	16.1
AIR FORCE:	
O&M(O&MAFRes)	30.5
O&M(O&MANG)	265.5
USMC:	
O&M(O&MMC)	.6
Milpers:	
NAVY:	
Reserve Personnel Navy	12.2

AIR FORCE:	
Reserve Personnel, Air Force	6.3
Reserve Personnel, Air National Guard	146.8
USMC:	
Reserve Personnel, USMCR	4.0

LEASED COMMUNICATIONS SERVICES

Question. According to the Defense Commercial Communications Office (DECCO), DoD spends about $1.3 billion a year on all types of centrally managed leased communications. This, however, does not include costs for communications leases contracted for directly between the DoD user and the commercial carrier. The GAO estimates that this non-DECCO leasing may also exceed $1 billion. How does DoD ensure that commercial communications services are obtained only for validated requirements if such significant sums can be spent without any central review?

Answer. DoD assigns responsibility for validation of requirements to its Military Services and Defense agencies. Military Service Major Commands and Defense agencies have responsibility for Planning, Programming and Budgeting System inputs, implementation of internal controls and are subject to audits and oversight by Financial Officers of the Military Services and OSD auditors respectively. DoD has promulgated Directives and Instructions which provide guidance and establish management requirements to be met by the Services and Defense agencies. DoD is striving to development and implement centralized databases that would provide the visibility required and an automated mechanism for review and revalidation.

Question. One of the biggest concerns over independent leasing is that significantly higher prices are paid when commercial communications services are purchased in small quantities and not "bundled" into larger packages. How much of the $1 billion in independent leasing does DoD estimate could be saved each year if the communications services were purchased in a coordinated fashion?

Answer. While there is some leasing of long-haul telecommunications services outside of the Defense Commercial Communications Office (DECCO), the majority of these services are in support of base and local requirements and cannot be considered candidates for bundling with DECCO acquired long-haul services. DoD cannot confirm the $1 billion figure estimated by GAO and considers the number too high in the context presented.

Question. For the record, what was DoD's total cost for acquiring commercial communications services in 1992, including the number of leases, the number and types of circuits, and the total costs of services acquired by DECCO as well as for services acquired directly by units of DoD.

Answer. The following figures are DECCO long-haul FY92 procurements for DoD activities.

Types of service	Annual dollars	No. of contracts
Voice	$203,500,594.21	35,153
Data	184,589,855.44	10.424
Equipment	173,465,919.23	6,830
Wideband (e.g. Video)	119,129,761.88	3,610

Types of service	Annual dollars	No. of contracts
Radio	12,896,597.43	954
Facsimile	656,846.91	31
Control Channel	128,306.46	63
Maintenance	737,785.02	479
Construction	187,345,184.64	123

Total DECCO annual sales for FY92 were $1.27 billion, approximately 23% ($292 million) was non-DoD (e.g., FAA, etc.).

Data bases to collect local leased communication data, similar to the above, are not currently available in the Military Services. Centralized data bases, to capture local telecommunications information, are required in DoD Directive 4640.13 "Base and Long-Haul Telecommunications Management". Standard data elements for these centralized data bases are being developed by the Defense Information Systems Agency.

[CLERK'S NOTE.—End of questions submitted for the record.]

WEDNESDAY, MARCH 24, 1993.

COMMANDER IN CHIEF, UNITED STATES TRANSPORTATION COMMAND

WITNESS

GENERAL RONALD R. FOGLEMAN, U.S. AIR FORCE, COMMANDER IN CHIEF, UNITED STATES TRANSPORTATION COMMAND

INTRODUCTION

Mr. MURTHA. The Committee will come to order.

This morning we will hear testimony from General Ronald R. Fogleman, Commander in Chief, U.S. Transportation Command, on the status of operations and programs of the Transportation Command. The last two and one-half years, since the start of Operation Desert Shield in August of 1990, have been a severe test for the Transportation Command and its components. The Committee is interested in determining what programs are necessary to ensure that the performance of the past can be maintained in the future.

General Fogleman, we want to welcome a fellow Pennsylvanian to the Committee. We appreciate your long years of experience and your job in logistics.

We were just talking and you said this is your first tour on that side of the field. I used to think when I was in the infantry that the supplies just appeared because they were always there.

It is a phenomenal job that your folks have done over the years. In Somalia, you are doing an outstanding job and I know it is stretching your services thin and we appreciate what the troops are going through.

I was just talking to the Director of the Budget, Leon Panetta. I told him we can't keep up this tempo of operations and keep reducing defense funding and expect things to appear where they are needed. He agreed, but he went on to say we can expect more raids on the defense budget this year.

I told him we can't afford those kinds of raids. As a matter of fact, we are going to try to put back money for the lower level enlisted and junior officer pay increases. I don't know if we will be successful, but we are going to try that.

The job you have is turning out to be the single most important job in the military today because of the vast responsibilities you have.

We welcome you to the Committee and we appreciate the work that you are doing for the country and look forward to hearing from you. Your entire statement will be put into the record, without objection. If you will summarize your statement, we will get to the questions.

We are having a hearing this afternoon on the C–17. That is such a troubled program. We have been concerned about it for five years and it doesn't seem to be getting better from all the reports we get. We know a lot of it is the problem of the contractor. We would be interested to know how important the C–17 is to your mission and what shape the other planes are in and what you are doing to get by in the interim.

With that, General, we appreciate your coming before the Committee.

You may proceed.

SUMMARY STATEMENT OF GENERAL FOGLEMAN

General **FOGLEMAN**. Mr. Chairman, members of the Committee, I want to thank you for this opportunity to appear before you today representing the men and women of America's defense transportation system.

As you have indicated, I have provided a written statement and I appreciate that being included in the record.

A CHANGING WORLD

I would tell you, Mr. Chairman, that the world and the DOD have changed greatly in the last four years. However, throughout the period, there has been one constant. Despite the end of the Cold War, the men and women of the United States Transportation Command and our component commands—Military Sealift Command, Military Traffic Management Command, and Air Mobility Command, have continued operating at a very high tempo.

Today America's defense transportation team is conducting mobility operations in states of the former Soviet Union, providing aid to Kurds, and supporting task forces in Somalia, Southwest Asia, and Eastern Europe. We are returning forces from Exercise Team Spirit in Korea and supporting drug interdiction efforts in South America and the Caribbean.

All of this is taking place against the backdrop of day-to-day operations supporting our forces around the world as well as responding, when called, to provide humanitarian and disaster relief. It is not inaccurate to say, "If you want to know what USTRANSCOM is doing, watch CNN."

As the new Commander in Chief of the United States Transportation Command, I have spend a great deal of time with my commanders and troops in the field, with leaders in the commercial transportation sector, and with my fellow CINCs. I have also shared what I have learned with the Chairman of the Joint Chiefs of Staff, the senior leaders of the new administration, and Members of Congress.

CRITICAL ISSUES

While my detailed observations and recommendations on defense transportation plans are contained in my prepared statement, I would like to spend just a few minutes this morning to highlight some of the most critical issues.

You have already recognized—and I would agree with you—that defense transportation is the cornerstone of our national security strategy built on CONUS-based contingency forces.

We have only to look at the last three years, from the rapid reaction, to events in Panama, to the deployment and support of over half of million troops in Southeast Asia, from humanitarian relief to places like the former Soviet Union, the Kurds, or starving people in Somalia, to disaster relief following hurricanes, floods and earthquakes here in the United States.

The common element that ensured success in all of these operations was the support provided by America's defense transportation team.

Second, to maintain this vital and unique capability, the Department of Defense and Congress must continue to support and fund the recommendations in the Mobility Requirements Study.

This Committee has consistently supported the recommendations of this congressionally mandated study by funding the critically needed expansion and modernization of our airlift, sealift, afloat prepositioning, and surface mobility assets, as well as the overseas en route infrastructure required to maintain a global mobility system. I cannot overstate the need for your continued support, particularly in the area of airlift modernization. Our strategic fleet is tired. Without a replacement, the viability of the entire defense transportation system will be threatened.

Finally, as the Committee knows, a recently signed DOD directive formally assigned USTRANSCOM as the single manager for defense transportation in both peace and war.

In order to carry out this responsibility, we will be working closely with the Joint Staff, Department of Defense, and the Congress to ensure that the necessary policies, procedures, manpower, legal and financial tools are available.

To make the single manager concept a reality, we must ensure that authority and responsibility are properly aligned.

Today, Mr. Chairman and members of the Committee, a new total force team—military forces, including the Guard and Reserve, in partnership with America's commercial transportation industry, are at work around the world supporting our military forces and providing humanitarian relief.

This is a turning point in our Nation's history. Budget decisions made this year will determine the defense transportation system's capability, and hence America's ability to secure our national security interests, well into the next century.

On behalf of the men and women of the United States Transportation Command, thank you for this opportunity to appear before the committee.

I would be happy to take your questions at this time, sir.

[The statement of General Fogleman follows:]

Biography

U.S. Transportation Command
Scott Air Force Base, Illinois 62225-7001

Air Mobility Command
Scott Air Force Base, Illinois 62225-5001

GENERAL RONALD R. FOGLEMAN

General Ronald R. Fogleman is commander in chief of the U.S. Transportation Command and commander of Air Mobility Command, Scott Air Force Base, Ill.

General Fogleman was born Jan. 27, 1942, raised in Juniata County, and graduated from Juniata Joint High School, Mifflintown, Pa., in 1959. He earned a bachelor of science degree from the U.S. Air Force Academy in 1963 and a master's degree in military history and political science from Duke University in 1970. He completed Army War College in 1976.

He was commissioned as a second lieutenant upon graduation from the Academy. The general completed undergraduate pilot training at Vance Air Force Base, Okla., and remained there as an instructor pilot and flight examiner. He then completed advanced pilot training as an F-100 pilot at Luke Air Force Base, Ariz. In April 1968 General Fogleman transferred to the Republic of Vietnam, serving first with the 3rd Tactical Fighter Wing, Bien Hoa Air Base, then, in November 1968, with the Commando Sabre, 37th Tactical Fighter Wing, Phu Cat Air Base. In March 1969 he returned to the 3rd Tactical Fighter Wing, where he completed 240 combat missions.

In January 1971 he was assigned as an associate professor of history at the Air Force Academy. His next assignment, in December 1972, was with the 432nd Tactical Reconnaissance Wing, Udorn Royal Thai Air Force Base, Thailand, where he served as an F-4 pilot, instructor pilot and commander of the Laredo Forward Air Controller Flight, completing 75 combat missions. In April 1974 the general was assigned to the Air Reserve Personnel Center, Colo., as chief of rated assignments.

After completing Army War College in July 1976, General Fogleman was assigned to the 36th Tactical Fighter Wing, Bitburg Air Base, West Germany, as assistant deputy commander for operations. In February 1978 he was assigned to the 32nd Tactical Fighter Squadron, Camp New Amsterdam, Netherlands, as deputy commander for operations.

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(Current as of August 1992)

While at Bitburg and Camp New Amsterdam, he maintained mission-ready status with an additional duty as the United States Air Forces in Europe F-15 aircraft demonstration pilot, performing at numerous international air shows.

The general was assigned as chief, Tactical Forces Division, Directorate of Programs, Headquarters U.S. Air Force, Washington, D.C., from July 1979 to August 1981. He then transferred to Hill Air Force Base, Utah, as vice commander, 388th Tactical Fighter Wing. He became director of fighter operations at Headquarters Tactical Air Command, Langley Air Force Base, Va., in June 1982, and in March 1983 took command of the 56th Tactical Training Wing, MacDill Air Force Base, Fla. In September 1984 he became commander of the 836th Air Division, Davis-Monthan Air Force Base, Ariz. The general served as deputy director and director of programs and evaluation, Office of the Deputy Chief of Staff, Programs and Resources, Air Force headquarters, from March 1986 until June 1990. In July 1990 General Fogleman was assigned as commander of 7th Air Force, Pacific Air Force; deputy commander, U.S. Forces, Korea; and commander, Republic of Korea and U.S. Air Component Command, Combined Forces Command, with headquarters at Osan Air Base, Republic of Korea. He assumed his present position on Aug. 25, 1992.

A command pilot with more than 5,300 flying hours, General Fogleman is also a rated parachutist and wears the Missile Badge. He has flown T-37s, T-33s, F-100s, F-4s, F-15s, F-16s and A-10s, and completed 315 combat missions in Southeast Asia, logging 806 combat hours in F-100s and F-4s. His military awards and decorations include the Defense Distinguished Service Medal, Distinguished Service Medal, Silver Star, Legion of Merit with oak leaf cluster, Distinguished Flying Cross with oak leaf cluster, Purple Heart, Meritorious Service Medal, Air Medal with 18 oak leaf clusters, Aerial Achievement Medal, Air Force Commendation Medal with two oak leaf clusters, Presidential Unit Citation with oak leaf cluster, Air Force Outstanding Unit Award with "V" device and three oak leaf clusters, and Republic of Vietnam Gallantry Cross with Palm, Republic of Korea Order of the National Security Medal-Kuksun Medal, and the Republic of Korea Presidential Citation. The general also received the Lance P. Sijan Leadership Award, senior officer category, in January 1985.

The general is a Fellow of the Inter University Seminar on Armed Forces and Society and a member of the Council on Foreign Relations in New York City.

He was promoted to general on Aug. 18, 1992.

General Fogleman is married to the former M. Jane Lauver of Mifflin, Pa. They have two sons, Robert and Bill.

Defense Transportation In A Changing World

House Appropriations Committee
Defense Subcommittee
March 24, 1993

Prepared Statement
General Ronald R. Fogleman
Commander in Chief, United States Transportation Command

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Taskings will increase in response to non-traditional peacetime contingencies. USTRANSCOM must be capable of rapidly responding to unplanned, short notice contingencies at distant, and sometimes austere locations—sometimes in a combat arms capacity, sometimes in a humanitarian support role 16

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UNITED STATES TRANSPORTATION COMMAND

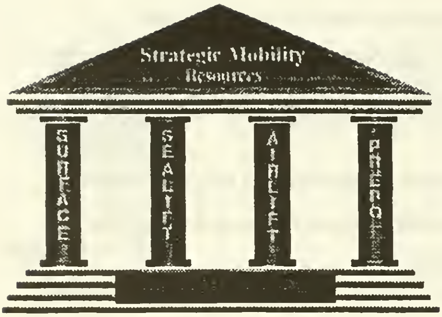
Defense Transportation in a Changing World

Introduction

America's role in the world is evolving more rapidly than ever before. In the space of two years we have become the sole superpower in the world. Our military force structure is shrinking at the same time our involvement, both unilaterally and in coalitions, is expanding. We have seen the capability and flexibility of the U.S. military in action across the full spectrum; from war in the Persian Gulf, rapid reaction in Panama, emergency evacuation in Liberia, humanitarian relief in northern Iraq, Bangladesh, states of the former Soviet Union, Somalia, Bosnia, and Cambodia, and disaster relief in the Philippines, Guam, Florida, California, and Hawaii. What is common to all of these, and indeed is the keystone of any national security strategy, is a robust Defense Transportation *System*.

I emphasize the word *System* because defense transportation capabilities are not just resources owned and maintained by the Department of Defense. It includes the transportation infrastructure of the United States and strategic locations around the globe; the assets of U.S. trucking, railroad, airline, and merchant marine industries—plus the state port authorities which are key nodes in the intermodal systems, and the industrial base that supports them. The system also includes the unique capabilities required in U.S. government owned transportation resources such as our Fast Sealift Ships and Ready Reserve Force, strategic lift aircraft, Civil Reserve Air Fleet, and the Defense Freight Railway Interchange Fleet. Because investment in these capabilities go to industries that produce commercial transportation capability, modernizing the Defense Transportation System not only benefits national security from a military perspective, but from an economic one as well.

My statement today provides a report on the health of today's Defense Transportation System, offers a perspective on the future, and highlights near-term imperatives requiring our attention.



USCINCTRANS' Assessment: The Pillars of Strategic Mobility

Upon assuming command, my first priority was to visit the regional CINCs and installations under the command of USTRANSCOM's components. I talked with the commanders and troops in the field to gain their perspective and talked with leaders in the commercial transportation sector, because a significant amount of our capability to fulfill defense transportation requirements resides in the commercial sector.

Surface Mobility...... *"Fort to Port"*

In DESERT SHIELD / DESERT STORM, 85% of the dry cargo moved by sea and 15% moved by air. However, at some point, 100% of the unit equipment, ammo, food, medicines...had to move by surface from "fort to port." Nearly all of this traveled on commercial vehicles. With the exception of certain specialized railcar requirements, the commercial sector is capable of meeting defense movement needs in the United States. However, many DOD owned railcars are reaching the end of their 40 year service life. New flatcars must be purchased and placed in the Defense Freight Railway Fleet to support mobilization requirements of the Army

Strategic Mobility Plan. These flatcars transport light tracked vehicles of the lead brigades, plus tanks, to ocean ports within 48 hours of notification.

With continued support from Congress, our capability in this mode of transportation will remain in fairly good shape.

Sealift Mobility..... *"Port to Port - Sea"*

While we do not have enough sealift to meet requirements today, the ongoing sealift program is designed to meet the recommendations of the Mobility Requirements Study. Fortunately, our current sealift assets are in better shape than at anytime in the recent past. USTRANSCOM has established aggressive management initiatives that will pay off now and in the future. Ready Reserve Force Roll-On / Roll-Off (RO-ROs) ships returning from Operation DESERT SHIELD / DESERT STORM, are being repaired and placed in a higher state of readiness. Also, since my predecessor last testified, MARAD has bought 12 additional RO/ROs—and is starting the process to bring them up to required U.S. standards in U.S. shipyards.

The addition of the Large Medium Speed Roll-On / Roll-Off (LMSRs) ships to our strategic sealift force is due, in large part, to strong support received from Congress. These versatile ships are essential to our ability to rapidly deploy heavy unit equipment; a fact that was recognized by those who completed the analysis for MRS Vol I. On this basis, and on the experience we've gained in Southwest Asia and Somalia, unquestionably the improvements planned in strategic sealift and afloat prepositioning programs will serve our nation well in the years ahead.

Within DoD, the Navy has awarded strategic sealift ship Engineering Design contracts; five to U.S. shipyards for conversion programs and seven to U.S. shipyards for new construction. On the current timeline we would expect the converted ships to begin entering our inventory in FY95 with new ships arriving in FY97.

We strongly support both conversion and construction programs and we are pleased by the progress made to improve and expand the Ready Reserve Force. We will continue to advocate programs that will ensure the viability of this critical element of defense mobility.

Air Mobility..... *"Port to Port - Air"*

In both absolute terms, and relative to the other major modes of transportation, the ability of our air mobility assets to meet CINC requirements is deteriorating. Because of this, I want to strongly emphasize support for the existing force in the near term and for the core airlifter of the future—the C-17. As the committee members know, in addition to being the Commander in Chief of United States Transportation Command, I also serve as the Commander of the USAF's Air Mobility Command. This new command combines nearly all Air Force Global Reach assets: airlift and air refueling. I am concerned by the current condition of our fleet.

Throughout the 1990s, the operating tempo of our nation's military airlift fleet, and to a lesser extent our air-refueling fleet, has been extremely high. In order to meet our worldwide requirements during DESERT SHIELD, and despite activation of the CRAF, we were forced to delay scheduled depot maintenance of our military fleet. This has resulted in a situation where we have far too many C-141s and C-5s in the depot now and for the foreseeable future.

Since DESERT SHIELD, the pace has not slowed. Our nation calls on air mobility first and most often to respond to events around the globe because of its inherent flexibility and responsiveness. There is a price for this. Today, 50% of the C-141 fleet is unable to carry full loads at optimal altitudes because of wing and cockpit window frame cracks. Despite efforts to maintain capability through various modifications to the aircraft, the fact remains that the C-141, built in the 1960s, uses 1950s technology, and is simply tired. We operate through airfields that range from long and modern to short and austere—which requires aircraft capable of high throughput and agility on the ground. Adequate funding to maintain our C-141 fleet until we can acquire the capability offered by the C-17 is a proper and prudent course.

In airlift the measure of merit, as with every mode of transportation, is *throughput*. Throughput is the amount of cargo and passengers moved out of, through, or into a specific location. Somalia provides a classic case in point as to why we need the capabilities offered by an aircraft like the C-17. In Mogadishu we were limited to a single runway with limited ramp space. Because of the C-5's large wingspan and length, the maximum aircraft we could have on the ground (MOG) was either one C-5 or two C-141s at a time. Using the C-17 aircraft, with the same limiting factor of a maximum on the ground of two, and allowing for one commercial wide body aircraft a day for passenger movement, we would have increased the tonnage offloaded by 41%. However, because of the C-17's unique backing capability, tonnage offloaded would have actually *doubled* because three C-17s could have operated concurrently in the limited ramp space available.

Beyond the numbers, throughput is inversely proportional to risk and directly proportional to mission success. The men and women of our fighting forces are most at risk when they do not have the resources or capacity to accomplish their mission. Our ability to rapidly transport equipment means U.S. forces are less at risk and more likely to be successful in their mission. Here's just one example. One of the Army's most used assets is the Bradley fighting vehicle. The chassis of the Bradley will be the basis for many Army vehicles. It takes one C-141 to carry one of these vehicles to a short field like Baledogle in Somalia, an airfield that has neither the runway length nor the ramp space needed by a C-5. Five to 7 people, using a 10K forklift, need four and a half hours just to prepare the Bradley for loading on a C-141. Because of the C-141's low overhead and narrow fuselage, the average loading time for one vehicle is 3 hours, with another 3 hours needed to offload. The operation requires a winch, one loadmaster, one driver, and four ground support personnel. After arrival it takes 5 to 7 people, using a 10K forklift, 6 hours to reassemble the Bradley to go into action. That's a total of sixteen and a half hours for on and off load activities. The C-17 will carry three Bradleys, no special preparation is required, and the Bradleys can be loaded and unloaded by a loadmaster and driver in the time it takes to drive the vehicle on and off the aircraft. Most importantly, the Bradleys roll off the aircraft ready for action. That is real risk reduction. That is real throughput increase. In a constrained fiscal environment, dollars spent on transportation must improve throughput and reduce risk —and the C-17 does that.

Because of reduced C-17 procurement rates and the deterioration of the C-141 fleet, Congress directed the Air Force to study the feasibility of another C-141 service-life extension program. The Air Force Materiel

Command and the Scientific Advisory Board are actively working this important task. Until the Scientific Advisory Board completes its evaluation, we consider any C-141 SLEP proposal to be premature. It is important to stress that a life extension program of the C-141 would only delay the inevitable and does nothing to address the throughput and modernization concerns just discussed. While the lift requirements still exist, canceling the C-17, as has been suggested, would require another acquisition program producing an aircraft that looks remarkably like a C-17—or put the country in a position of not having adequate airlift with capability required to execute our national security strategy. Clearly, the nation needs a new airlifter capable of carrying large amounts of cargo, including outsize heavy loads, into the next century. That airlifter must be capable of operating into short runway, ramp-constrained environments, with fewer crewmembers and lower overall maintenance costs.

The C-130 fleet remains our primary resource for intra-theater airlift. Used extensively in relief operations in Somalia, as well as war torn Yugoslavia, the C-130H continues to be the reliable workhorse of intra-theater airlift.

Our current air refueling fleet of KC-135 and KC-10 aircraft are to serving our nation well. The wisdom of combining the nation's airlift and air refueling fleets under a single command was vividly demonstrated in RESTORE HOPE. Air Mobility Command tankers enabled our airlift fleet to depart onload locations on the U.S. west coast and extend the first leg of their mercy missions all the way to Egypt. From there, crews were able to continue the last leg of their journey—landing and offloading in Somalia. Ongoing modification programs for the KC-135 aircraft will help ensure this critical lift extending capability is always available.

Tied closely to our air mobility force modernization is modernizing the equipment needed to rapidly load and unload aircraft. The 40K loader, workhorse of our current materials handling fleet, is in bad shape. One hundred sixty three of the 283 loaders, 58%, are experiencing cracks in structural members, caused by age, fatigue, and heavy use. The new 60K loader will provide a more reliable, maintainable, and versatile loader that is capable of working both military and civilian aircraft. The fielding of a transportable 60K loader is high on my list of priorities and I urge continued support of this program.

Afloat Prepositioning

The combination of fewer forward deployed forces and the need to be able to rapidly respond with overwhelming strength, reinforces the need for an afloat prepositioning program. Examples include the Marine Corps Maritime Prepositioning Ships (MPS) and elements of the Afloat Prepositioning Ships (PREPO) carrying Army, Air Force, and Navy cargo. USTRANSCOM and our components provide extensive management services for afloat prepositioning programs including contract support, financial management through the Defense Business Operating Fund, siting analysis, and policy recommendations to the Joint Staff. While carrying a specific Services' equipment and supplies, these ships remain assigned under the control of the regional CINC. Following initial discharge of their cargo, these ships revert to USTRANSCOM control to be used as common-user assets for all Services. Used extensively during DESERT SHIELD / DESERT STORM, and most recently in Somalia, afloat prepositioning has shown how invaluable this concept can be. Continued investment to expand afloat prepositioning, as recommended by the MRS, is essential.

Infrastructure

Transportation assets are effective only to the extent that the physical and electronic infrastructure supports them. This critical aspect of the Defense Transportation System includes highway and railroad access at key installations throughout the United States and overseas. It includes the throughput capacity to key aerial ports and seaports here at home, at en route bases, and theaters of operations around the world.

At many of our military installations, the outloading facilities needed to prepare and move equipment forward are in need of upgrading. Seldom used railroad spurs connecting forts and bases to commercial rail lines have not always received the attention they need. Poor track conditions at some DoD mobilization stations constrained DESERT SHIELD outloading.

There are other aspects to infrastructure. The capabilities of our military and civilian airfields as well as key seaports along our coasts are crucial to deployment. The Strategic Highway Corridor Network (STRAHNET), a system of national public highways designated for the movement of defense personnel and equipment, consists of the 43,500 mile Interstate System and 16,300 miles of non-interstate highways. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) recognizes that STRAHNET and important connector roads are an integral part of the National Highway System (NHS). While in generally good shape, some STRAHNET roads and bridges need repair. Thus we are interested in how funds authorized for the ISTEA will be spent and urge continued Congressional support. The

ISTEA also emphasizes the need to think and plan intermodally. We have established a dialog with the Department of Transportation's new Office of Intermodalism to coordinate needs. As in the case of the original Interstate Highway Act, the ISTEA provides the framework where infrastructure investment can also benefit national defense.

USTRANSCOM'S interests also include our nation's railroads. The health of the 38,800 mile-long Strategic Rail Corridor Network (STRACNET) is directly tied to the economic viability of the commercial rail carriers which own the track. Today's rail system currently meets defense requirements but we will continue to monitor its condition closely.

Last year, Congress provided additional funding for mobility enhancements. These funds are being put to good use to update transportation communications and management tools, and for equipment to improve cargo handling. Such investments, while small in comparison to the overall budget, pay big dividends in terms of mobility.

Beyond our shores, en route bases are critical to America's ability to project, sustain, and redeploy our forces as well as support our allies. Our studies show significant delays in closure of combat forces if access to key locations are not maintained. As we reduce overseas basing, and as we become increasingly dependent on a CONUS based force, we must put into place the necessary contingency basing agreements and develop the forces required to quickly erect an en route support system. Without the ability to quickly establish an en route infrastructure, the United States will be unable to support global mobility requirements.

Operating parallel to the transportation infrastructure is a Command and Control infrastructure that will take on increasing importance in the years ahead. USTRANSCOM is developing a Global Transportation Network

(GTN) to link various existing command and control and logistics computer systems. In the future, GTN could provide the basis to connect to Defense Logistics Agency systems, literally allowing us to track cargo from the warehouse until delivery to the theater supply point. By eventually achieving total visibility over the deployment and sustainment system, we can optimize the use of scarce resources while achieving mission success.

USTRANSCOM provides leadership to a new type of Total Force—a winning team comprised not only of Active Duty, Guard, and Reserve forces from each of the military services, but also a strong partnership with numerous sectors of the local and international commercial transportation arena.

Speaking of teams, I would be remiss if I didn't speak out strongly about the real heart of our system—people. We sometimes gloss over the term "all-volunteer force" without realizing what commitment that requires of us as a nation. "Volunteers" are special people who give of themselves and their families and who deserve recognition and consideration from our nation's senior leaders. From the installations they work on, to the services provided, to the lifestyle they can maintain, we owe our volunteers a quality of life commensurate to the sacrifices they are asked to make. It takes a special type of man and woman who daily faces the prospect of leaving home on short notice, for undetermined periods of time, with the possibility of giving their life in the service of their country. I am proud to represent them here today and ask for your continued support and consideration of these unique individuals as you make important decisions that will affect their lives in the months and years ahead.

Future Perspectives on Defense Transportation

After completing an assessment of today's Defense Transportation System, my next priority was to evaluate and refine our long range planning goals. Working with my component commanders, we began the process by examining the factors that will most likely influence defense transportation in the future. We used as a planning horizon the year 2010. While some may suggest this is too far in the future, we realized that the assets we have to work with today are the results, in large part, of decisions made in the 50s, 60s, and 70s. The procurement and policy decisions made this year will determine what our successors will have to work with well into the next century. Let me share with you what we consider to be the driving factors that will shape the future Defense Transportation System.

First: *National priorities, rather than clearly defined threats of the Cold-War, will drive our organizational structure, budget, and business methods.*

With the collapse of the Soviet Union as a potential adversary, the planning process has become infinitely more complex. Threats to our interests can now come from any point on the globe, often unexpectedly and simultaneously. National priorities such as deficit reduction and domestic programs will limit the resources available for national defense that, in turn, will cause substantial changes in our organizational structure, budget, and business methods.

The emerging role of USTRANSCOM is a perfect case in point. As an outgrowth of the Goldwater-Nichols Act, the President established USTRANSCOM to improve the effectiveness of defense transportation by eliminating duplication and streamlining procedures. This year, a new DoD Directive expanded USTRANSCOM's responsibilities to include peacetime authority to act as the Single Manager for Defense Transportation with combatant command of its three components: The Air Mobility Command, the Military Sealift Command, and the Military Traffic Management Command. Also, management authority over the transportation portion of the Defense Business Operating Fund provides USTRANSCOM the ability to reduce costs by standardizing procedures and using business-like methods, such as full cost identification. Rather than three independent Service managers, our new authorities allow for decisions based on one central underlying question: How does the United States meet defense transportation requirements and ensure success of our military forces—our customers, at best value to the American people?

Second: *America will have fewer forward-deployed active duty forces. Regional CINCs will experience increasing transportation requirements, and consequently, USTRANSCOM will become more dependent on responsive commercial and reserve force capabilities, and, a well-maintained CONUS and en route infrastructure.*

Following the Korean War and the beginning of the Cold War, American leaders recognized the need to defend our global interests with a larger military force. The Cold War exacerbated this, resulting in an even larger force structure and was in sharp contrast to our historic roots as a militia-nation. The structure and makeup of our armed forces is evolving to reflect changing conditions. There will be some realignment of roles and missions, especially when it comes to our reserve components, the Guard and Reserve, as well as our use of the nation's commercial transportation sector.

Our defense transportation system already reflects reliance on our reserve components. In Air Mobility Command, 42% of the KC-135, 43% of the KC-10, 58% of the C-141, 62% of the C-5, and 71% of the C-130 crew force are in the Air Reserve Component (ARC). Fifty-five percent of our Civil Engineer, 63% of our Aerial Port, 74% of our Intelligence Specialists, and 91% of our Aeromedical personnel are also in the ARC.

In sea and surface mobility our ability to surge is also highly dependent on reserve forces and the private sector. One-hundred percent of our Transportation Terminal, Deployment Control, and Railway Service Units are in the Reserve. Civilian U.S. merchant mariners man our Fast Sealift, Ready Reserve Force, and Afloat and Maritime Prepositioning Ships. We use commercially contracted rail and truck carriers for virtually all of our CONUS surface transportation requirements. Beyond short duration, low intensity mobility operations, we already depend heavily on reserve components and the commercial sector.

A post-Cold War U.S. military, while inevitably smaller and less forward deployed, must be effective and capable of responding when called. Our nation will spend less money as a percentage of GNP on national defense. However, in order to maintain our ability to shape events around the world—as a means to ensure our own national security—we must continue investment in, and expansion of, our defense transportation capability while leveraging the benefits of our Guard, Reserve, and commercial fleets.

Third: *Taskings will increase in response to non-traditional peacetime contingencies. USTRANSCOM must be capable of rapidly responding to unplanned, short notice contingencies at distant, and sometimes austere locations—sometimes in a combat arms capacity, sometimes in a humanitarian support role.*

Few people would have predicted that over the past several years our Defense Transportation System would be operating at such a high tempo:

—continuing to support troops and peace in Europe, Central America, the Far East, Southwest Asia;

—providing assistance to states of the former Soviet Union, the Kurds, Cambodia, and U.N. peacekeeping forces in Somalia and the former Yugoslavia;

—aiding victims of natural disasters in Bangladesh, the Philippines, Guam, and numerous places here at home.

There were no plans for such operations in the traditional war planning sense and each presented unique challenges in terms of infrastructure, threat, and urgency. Today and into the next century, we believe the no-plan, no-notice scenario will be the norm. This means that the Defense Transportation System must be in a higher state of readiness and must have greater flexibility and greater capacity to operate in remote regions of the world. We must place greater emphasis on establishing and maintaining infrastructure to support mobility operations.

Fourth: *The majority of defense transportation capability will continue to reside in the commercial sector. USTRANSCOM, as Single Manager for Defense Transportation, will be the lead military spokesman to industry, Congress, and other government agencies.*

We do not expect our partnership with the commercial sector to diminish, nor would we want it to. The military assets in our Active Duty, Guard, and Reserve forces, as well as ships chartered or maintained in our Ready Reserve Force and aircraft from the Civil Reserve Air Fleet, must provide the critical capability needed for the rapid response to short notice contingencies and the surge phase of major operations. We design DoD surface transportation assets, sealift ships, and aircraft for special requirements, unique to military operations and not readily available in commercial fleets. However, for the vast majority of our sustainment operations, we have in the past relied, and in the future will continue to rely, heavily on the unique member of our Total Force team—the commercial sector.

Because of the effective partnership we have with commercial industry, and because of the special responsibility USTRANSCOM has been assigned as the single manager for defense transportation in peace and war, we are tasked to establish and maintain relationships between the Department of Defense and the commercial transportation industry to develop concepts, requirements, and procedures for surface, sea, and airlift programs. We will work closely with other government agencies, particularly in the Department of Transportation, including the Federal Aviation Agency, the Federal Railway Agency, the Federal Highway Administration, U.S. Coast Guard, and Maritime Administration. We support the efforts of Secretary of Transportation Peña's Office of Intermodalism to promote improvements to our nation's infrastructure including highway, seaport, airport, and rail systems. We do this not only because of their crucial contributions to force mobilization and strategic deployment, but also because their health can help ensure our economic security.

Recent rapid economic, technological, and regulatory changes have altered the availability and type of commercial assets available for defense transportation missions. In the highly competitive air carrier arena the number of US-flag companies is on the decline. While there is currently sufficient capacity to meet our defense passenger movement requirements, the future capability of US-flag air cargo carriers is clouded. Fresh from their experience in the Persian Gulf War, and with the inevitable reduction in available peacetime DoD business, America's scheduled air carriers are re-evaluating the economic utility of voluntary participation in the Civil Reserve Air Fleet (CRAF) program. Airlines, already faced with operating losses, will likely downsize their fleets to what a peacetime commercial market can sustain—leaving little excess capacity to surge for defense requirements. Among their concerns for the future is the possibility of more frequent use of the CRAF and the resulting loss of market share to competitors during contingencies of short or long duration. Contract negotiations are currently underway since the current agreement runs out this year. Through the good offices of organizations such as the National Defense Transportation Association (NDTA), we are committed to an appropriately strengthened partnership with the nation's air carriers. My goal is to develop initiatives designed to maintain the viability of the CRAF program in such a way as to benefit our national defense and the nation's air carriers.

The size of our U.S. merchant marine, when measured in numbers of ships, is on the decline. In a similar vein, as ship-technology has improved, the number of merchant mariners needed to crew a ship has also declined. The net result—fewer ships and fewer crew members—means there will be fewer merchant mariners available to man Ready Reserve Force ships on short notice. The shortage could become critical and a merchant marine reserve program could become necessary. We again strongly urge that Congress establish merchant mariner re-employment rights.

USTRANSCOM, through organizations like the NDTA, is working in partnership with industry to enhance our nation's Sealift Readiness Program to the mutual benefit of all. The strategic sealift new construction and conversion programs will provide a stimulus to America's ship builders.

Transportation technology is evolving at ever increasing rates. In the future, deployment and sustainment information will likely be merged completely with command and control information. This is only logical since most command and control decisions are heavily influenced by the capability of the transportation system to deploy and sustain forces. A commander's ability to identify and transmit requirements and our ability to monitor the movement of items throughout the transportation system must improve.

Our nation's participation in multi-national or coalition operations will likely increase. Our experience in the Persian Gulf War, and more recently in Somalia, are prime examples. Each nation will bring to the table different assets and contributions, sometimes in troops and equipment, sometimes in financial capital, and perhaps sometimes in transportation capability. As we have integrated the action of troops on the ground, aircraft in the skies, and ships at sea, so too must we develop a Defense Transportation System that is capable of integrating the mobility efforts of coalition partners.

Near Term Imperatives for Defense Transportation

My review of our nation's current Defense Transportation System, combined with the initial results of our strategic planning process, revalidates the recommendations of the Congressionally mandated Mobility Requirements Study (MRS). The MRS continues to be a universally recognized road map for acquiring the capability needed for a robust Defense Transportation System. On February 2, 1993, Secretary Aspin in his first published policy and programming guidance to the Services said clearly,

> *"Continue progress toward the strategic mobility goals reflected in the Mobility Requirements Study."*

Our near term imperatives are to strongly advocate initiatives and programs that provide the capability called for in the MRS and to promote necessary improvements to, and maintenance of, worldwide infrastructure.

Conclusion

For the foreseeable future, America will defend its interests with a smaller force than in most of our citizens' memory. To succeed with a smaller force depends on investing in America's Defense Transportation System. The capability of that system is determined by our ability to attract and retain talented and experienced men and women, military and civilian, and providing them with the tools to do the job.

Today, the people of your Defense Transportation System are delivering supplies all over the world to support troops serving in humanitarian roles in Africa, Europe, the former Yugoslavia, and states of the former Soviet Union. They are among the first called to serve right here at home during natural disaster like earthquakes and hurricanes. They continue to support drug interdiction efforts in South America and training exercises around the globe. Everywhere we go, we are the most visible of ambassadors—symbolizing America's resolve.

Those who point to the collapse of the Berlin Wall as cause for celebration are right. It represented a victory of democratic ideals over tyranny; freedom over totalitarianism. But, while the threat of global nuclear war has for the moment subsided, it has been replaced with a new world of disorder. No military organization is more aware of it, nor is more involved in it, than USTRANSCOM. As seen in the former Yugoslavia, the collapse of the Warsaw Pact symbolically removed a restraint to ancient hatreds, ethnic conflicts, and civil wars. We live in a world where the ability to defend against or rapidly respond to unforeseen events will determine whether we and our allies will live free from the threats of terrorism, threats to the supply of critical raw materials and energy supplies, and threats by those whose arsenals include weapons of mass destruction.

Our nation will increasingly depend upon the Defense Transportation System to replace chaos with order and restore hope from despair. We envision a world where the United States, acting through the United Nations, will be a catalyst for world peace. As the sole remaining superpower, the United States is the only country over the next quarter century who has *both* the capability and the moral will to simultaneously contribute to peacemaking, peacekeeping, and humanitarian relief operations. In addition this same defense transportation system allows our nation to rapidly respond when natural disasters such as hurricanes, tornadoes, floods, and earthquakes strike here at home. ***The first weapon of choice, in war or peace, will increasingly be a mobility asset of the United States Transportation Command.***

On behalf of the men and women of USTRANSCOM and its components, thank you for your continued support of America's Defense Transportation System.

TEMPO OF OPERATIONS

Mr. MURTHA. General, we know that all of the military that appear before the Committee are willing to get along with the amount of money that is appropriated, but we are going into what I consider one of the most difficult and most challenging periods of our history. For instance, in 1980, we had almost an identical number of people in the service as we had in 1990. There was a world of difference between what we did in Desert Storm and what we did in Desert One in 1980. We couldn't even pull off a minor operation then.

I fear we are moving in that direction because we are losing high school graduates. Indicators are that some of the quality people are starting to get out. There is such a tempo of operations that the families are being disrupted and it is a real problem.

My agreement this year on the budget was we can get by this year because we have a residual build-up—spare parts and equipment and training that we bought over the last eight or ten years—but we can't get by for two or three years or we will have the same unprepared force we had in 1980 and 1981.

Would you talk about shortfalls from the standpoint of what you see if the tempo of operations were to remain the same, and what the shortfalls would be in your command next year?

General FOGLEMAN. Sir, I think the primary place that we would be impacted in the U.S. Transportation Command would be in the operations and maintenance accounts of our components. Those are the accounts that not only support our readiness in terms of training, realistic exercises, et cetera, but they are also the real core of our quality of life programs for our families and our troops. So I would say that one of the key areas of importance to us is the operations and maintenance accounts.

Mr. MURTHA. What are you talking about from a practical standpoint? What does it mean to you if you keep the same tempo? What is your shortfall going to be next year under the President's budget that was sent over to us?

General FOGLEMAN. I would tell you that what would probably first start to occur would be a degradation in readiness that we would see in the sealift business, perhaps in our ability to maintain the readiness state of the RRF, perhaps the ability to maintain the readiness state that we currently have for our fast sealift ships, that we would have to start backing off of some of that perhaps.

In the aviation business, what we would start to see is an increasing shortage probably of spare parts as we continue to operate at the same tempo, but we don't end up replacing parts and we don't have the money to repair them in the depots, that sort of thing.

AIRLIFT PROGRAM

Mr. MURTHA. How many of the C–141s have weight restrictions?

General FOGLEMAN. I have 234 C–141s in Air Mobility Command, but over 50 percent of them are limited now either because we have cracked wings or they have what we call a window post crack in the cockpit area which prohibits the aircraft from flying at its optimum altitude. That is an example of the discussion we had earlier.

What happens when you operate a force that is restricted is that rather than carry 25 tons in one airplane like we have been able to do in the past with an unrestricted airplane, we will end up carrying 18 to 20 tons and it takes 5 airplanes to do the job of 4, so you end up beating the crew force to death, a lot more time away from home. That is why we need to get the force up.

C–17 AIRCRAFT PROGRAM

Mr. MURTHA. Mr. Panetta of the Office of Management and Budget said there are going to be raids on the defense budget this year. Every year if they can't find money, they go to defense. I have said we can't afford those kinds of raids this year.

I predicted the C–17 was not going to be built because we can't afford all the programs. There are a number of programs I feel strongly about, but I don't see any way we can fund them. What happens if the C–17 is not built? What would you do if the C–17 weren't built? Say we made the decision in this Committee not to fund it and finally the other committees agreed with that, what would be the program that you would follow on in order to take advantage of other types of transportation that might work?

General FOGLEMAN. Well, I may be skating on thin ice here, Mr. Chairman, because I am not going to be the sole decisionmaker on this. Of course, we think it would be a terrible mistake to cancel the C–17.

I know you are aware of the strong requirement for it, but if I could just answer, I will start with why I think we really need the C–17 and go from there if I could, sir.

Mr. MURTHA. Okay.

General FOGLEMAN. Within a strategic airlift force, you always need a core airlifter and if you have a core airlifter, you can then build around it lots of options. As we look out into the 21st century, that core airlifter is the C–17 because it has both the outsize capability and the ability to go into small, austere fields. It gives us unique capability, the capability to do things. For instance, in Somalia, due to the smaller foot print of the airplane and its ability to turn on smaller ramps, we could have doubled the throughput in the same period of time.

Now you know as a former troop commander——

Mr. DICKS. Will you yield for a second? The C–141 today is our core airlifter; isn't that correct?

General FOGLEMAN. Yes, sir. The difference between the 141 and the C–17 is that the C–141 is a narrow body lifter. That is what required us to then marry that up with a wide-body lifter, the C–5. What we are looking at with the C–17 is an aircraft that spans the characteristics of a C–130, a 141, and to a certain extent our C–5, although in a program with a core C–17 force, we would see keeping a large number of our C–5s into the 21st century.

AGING AIRLIFT FLEET

Mr. MURTHA. You don't have them available. What do you do?

General FOGLEMAN. Then we are going to relook at the entire mix. What we would end up having to do is live with the kind of force we have today, but if it were up to me, I would recommend that we relook our narrow body capability because the C–5 has not experienced the same sort of airframe problems that we have with the 141.

The C–141 was designed in the fifties, built in the sixties, redesigned and rebuilt in the seventies, and has served us in tremendous fashion during the eighties and nineties.

The C–5 was designed and built basically in the sixties and seventies with a follow-on buy in the eighties so it is not experiencing the same kind of problems that we are having with the C–141.

So as we look out there, as I would look out there, I would look at trying to come up with some other capability for the narrow body.

Mr. MURTHA. It seems to me that you are mainly carrying troops. That is the main effort in the airlift—I realize there are different scenarios in different situations, but isn't troop carrying the real effort that you used the C–141s, or maybe not the C–5, but C–141s for?

General FOGLEMAN. It turns out that is not totally accurate. We end up carrying quite a bit of light unit equipment in the 141s. For instance, in Somalia, using the concept that we used there which I think will be a prototype for the future, we used all the elements of the mobility force.

We had maritime prepositioning ships at Diego Garcia. We could get them there with that equipment and supplies on board quickest, but we had to close the Marines from the First MEF. As we started to marry them up and close the force, we ended up bringing Marines and some of their headquarters and lead support equipment on the C–141s into Mogadishu.

Fifty-six percent of all the passengers that we flew into Somalia went in contract commercial wide-bodies.

Mr. MURTHA. Fifty-six percent came in commercial carriers. I assume the percentage in heavy equipment is the same, 95 percent come by sea?

General FOGLEMAN. Yes, sir.

Mr. MURTHA. So almost everything comes by sea. You take the stuff that is absolutely essential in the short term and what happens, for instance, in Somalia? Why are you still having to make those trips?

General FOGLEMAN. We are flying one or two sorties a day in sustainment channels where we are taking in fresh vegetables, mail, spare parts. At the same time, we are also starting to redeploy troops back from there and bring some of their gear back.

C–17 PROCUREMENT RATE

Mr. MURTHA. Would we be better off spending money to fix up the C–141? Say we get down to procurement of two C–17s a year. Is that going to make any difference to you? The cost will be so high and it will take us 60 years to build the 120 that you need.

General FOGLEMAN. Yes, sir. Obviously when we start to shift the rates, there will be a threshold beyond which we are going to either have to make a decision about the alternative to a service life extension on the C–141 or buy other capability, if you will, in another form.

I could give you an example on that, Mr. Chairman. Under the Mobility Requirement Study, the initial assumptions that were made on the C–17 procurement rate, by 1999, we anticipated having 80 C–17s——

Mr. MURTHA. 1999?

General FOGLEMAN. 1999. Under the current proposed profile, we will have 46 C–17s in 1999. What that has caused us to do as we look out at the program is to not retire some C–141s that we would have started retiring on a one-for-one basis.

We have to put back into the budget not only the money to fly the airplanes, but for the crews and we may be looking at other alternatives as we go on down the road.

C–17 AIRDROP MISSION

Mr. MURTHA. So obviously if we get down to procurement of three or four a year, you are talking about a lot less by 1999, maybe 25 or 30—does that help your capability at all, only having 25 or 30? Some of those have to be down during the year.

General FOGLEMAN. I would be very reluctant to see the C–17 force truncated. One of the driving factors for 120 C–17s is the number required to do a brigade airdrop. That is a very important capability to our customers, virtually all the CINCs have that in their war plan somewhere.

Currently we are doing brigade airdrops with C–141s and it takes 72 to 78 airplanes to do that.

When you start looking at an airlift force you would have to do your brigade airdrop with C–17s, because the C–5 is not a good aircraft for that particular function. You end up with a requirement for about 110 PAA and then you build down with your trainers and maintenance to get to where you are.

So there comes a point that if you were to terminate the program at less than 120, you know we would have to look at what the alternatives are and the mix. The low procurement rate, depending on how low it is, does not bother me as much as a cancellation.

The problem with low procurement rates is it puts the cost per unit off the chart in total program costs.

Mr. MURTHA. What do you mean by low procurement rates?

General FOGLEMAN. You were talking about two or three a year, sir. I have not seen the cost.

Mr. MURTHA. You could live with two or three a year?

General FOGLEMAN. No, sir. I don't know whether I could live with it or not because I have not seen the cost.

Mr. MURTHA. It would be better though than terminating the program. You are telling me two or three—answer that question for the record. Go back and figure that out because we may be down to that.

General FOGLEMAN. Yes, sir.

Mr. MURTHA. I don't think there is anybody here who doesn't feel strongly that the C–17 is an important element in the overall mix. On the other hand, if there is only a certain amount of money available, we are going to have to make some tough decisions this year.

General **Fogleman**. I will take that for the record and alert my good friend, General Jaquish, who is coming this afternoon, to address that.

[The information follows:]

Neither of these choices—cancellation or buying two or three C–17s per year—are good options. The customers, the Army and Marines, need the capabilities the C–17 brings to our airlift force as soon as possible. We are depending on the C–17 to form the core of our military airlift force of the future. The military capability of this country hinges on our ability to project forces—and the capabilities of the C–17 will form the cornerstone of the ability. Cancellation of the C–17 program is the worst of all options. Rather than lose the aircraft, we would prefer low production rates—although we would have a hard time living with this low rate (two to three per year) in an operational sense. Let me explain:

A sustained low (two to three a year) procurement rate would push me into a corner. We would get to a point in 2002 and 2003 where we must retire most of our current core airlifters—the C–141 force—and would not have enough C–17s to replace them and meet my core military airlift requirements. With a sustained procurement rate of two or three a year, we will only have 30 C–17s by 2002, and only have 117 C–141s left. This will leave us unable to respond to a national crisis that requires airlift. If a decision is made to fund only two or three C–17s per year, we would have to have other interim solutions to try to meet the nation's airlift requirements—until we can field a new, C–17-like aircraft.

My sense is that a procurement rate of two to three aircraft a year would make the C–17 unaffordable. I can't speak to the impact of buying only two or three aircraft, for even one year, on the health of McDonnell Douglas or the subvendors. I have to refer these questions, and questions about the fiscal impact, the actual costs per airplane that would result from a very low production rate, to SAF/Aq's General Jaquish. I have asked General Jaquish to get the answers to these questions, and I understand that it will take his people two or three weeks to analyze all of the impacts.

Mr. **Murtha**. Mr. Dicks?

INTER-THEATER AND INTRA-THEATER AIRLIFT

Mr. **Dicks**. Thank you.

General, welcome and I concur with what the Chairman said about the importance of transportation, especially as we bring our troops back to the United States and having most of the Army divisions in the United States except for minimal forward deployments in Europe in particular.

Your job, mobility, being able to move those troops out to Somalia or somewhere else will be an enormous challenge. In an earlier time on this Committee, I got involved, a lot deeper than I wanted to, on the question of air mobility. At that same time, the argument was over the C–5 and whether we should procure 747s, existing wide bodies, whether they were L–1011s, DC–10s, and to use them for airlift.

At that time, the case for the C–17 was that your existing airlifters, the C–141 and C–5 were going to have to be replaced at some juncture and that what we wanted was an air-lifter that had inter-theater capability to go from the United States, be refueled, and land at a major field, say, in Europe or in the Middle East and then have intra-theater capability where you could fly from that major field to a small runway, possibly a dirt runway and be able to deploy those forces and equipment and materials, high-priority stuff in a rapid period of time.

Is that still basically what we are talking about using the C–17 for?

General FOGLEMAN. Absolutely, sir. That is the unique capability it brings to us. That is why we look at it as our core airlifter.

Mr. DICKS. It would replace the C–130s and C–141s?

General FOGLEMAN. At 120, we could not do away——

Mr. DICKS. It has the capability to do both of those missions intra- and inter-theater with one aircraft?

General FOGLEMAN. Yes, sir.

AIRLIFT MISSION CAPABILITY RATES

Mr. DICKS. I want to go to readiness rates; fully mission capable—Mr. Chairman, this is important. When we had to move to Somalia, the fully mission capability rate for the C–141 was 27.1 percent. Is that correct?

General FOGLEMAN. Fully mission capable, yes, sir.

Mr. DICKS. That is disastrous. What is it supposed to be?

General FOGLEMAN. We would like a rate around 75 percent. There is a big partially mission rate——

Mr. DICKS. 56.7 percent. What we have here, Mr. Chairman, is an aircraft that is tired. It is old. It has all kinds of problems and we are going to have to spend an enormous amount of money fixing up and it doesn't have the capability of the new airplane. In my judgment, that is why, if we started over, we would have to turn around like we did on AX with the Navy attack aircraft, and start building the same plane we are building.

Why would we want to do that? It seems to me we have to put the pressure on the Air Force and on the contractor to start building this airplane and get us the plane we need.

We have spent an enormous amount of money in this committee developing this aircraft to this juncture and it is in production.

Can we get this plane produced, General, or is that General Jaquish's responsibility?

General FOGLEMAN. General Jaquish will be in a better position to talk to that issue.

Mr. DICKS. Your number one priority is because of the condition of these planes—you can't do it with C–5s.

The other problem is the C–5, with all due respect, one of those planes takes up a runway. It doesn't have the ability to back up and because of that you just jam up the field.

You had an example in your testimony I thought was very good in which you had one C–141 and one C–5 and that completely took up the entire field.

How many C–17s could you have put on the same field and off-loading equipment if you had it instead of the C–5?

General FOGLEMAN. In Mogadishu you could only put one C–5 or two C–141s on the ramp at a time. We could have been putting three C–17s in there and doubled our throughput.

Mr. DICKS. You have the example of the Bradley fighting vehicle where you have to take the entire thing apart to put it on the C–141 and then reassemble. It took 16 hours to do that where on the

C–17 you put three Bradleys on in one piece and drive them on and off and they are ready to go.

That is big savings in the time of your people. Doesn't that dramatically change the amount of equipment you can take and deploy?

General **Fogleman**, Yes, Sir, not only for my people, but for the employing CINC.

ACQUISITION OF COMMERCIAL WIDEBODIES

Mr. **Dicks**. I want to ask you this: the Chairman asked you a legitimate question. I don't think you gave the answer I expected. If we decide that the C–141 is so tired and the cost is going to be so much to fix it up, why not go back to what I wanted to do 10 years ago, that is to supplement the C–17, which I believe needs to be done. The C–17 is the centerpiece of our modernization effort for airlifters. We have to get the contractors straightened out and make it affordable.

Why not supplement that? Instead of fixing up this tired aircraft, why not go out and take some of the existing wide bodies that are out there available today and acquire them in lieu of trying to fix up the C–141? Isn't that an option or to buy potentially maybe some new ones?

General **Fogleman**. That is one of the alternatives that we are looking at. Yes, sir.

Mr. **Dicks**. I hope you will look at that.

Mr. **Murtha**. Let me make sure I understand. You are looking at the possibility of instead of fixing up all the C–141s, a mix of fixing some C–141s and then see if you can adapt some used or wide bodies, new wide bodies, which would be——

Mr. **Dicks**. Which are built for cargo.

General **Fogleman**. Yes, sir. One of the reasons that we are looking at that is the issue of industrial base and these kinds of things. It melds nicely with the kinds of things that we need to be looking at.

Mr. **Murtha**. You are going to buy an airplane off the shelf?

General **Fogleman**. Off the shelf, the off-the-shelf cargo aircraft that are in existence today.

Mr. **Dicks**. In this case, is the money in the budget now to do this fix-up on the C–141s?

General **Fogleman**. No.

Mr. **Dicks**. We would have to find the money somewhere to do that, is that correct?

General **Fogleman**. Absolutely. It has not been thoroughly staffed. My staff has done the preliminary work looking at what it would do for us in terms of overall million tons miles, those kinds of studies.

Mr. **Dicks**. The problem we have here is we have the C–5 which is the most expensive aircraft the Air Force ever owned and operated. It jams up the field. You have tired C–141s that are only 27 percent mission capable.

Is this not the weakest link we have now in our mobility picture, the future out there that has been very good up to now but if we don't do something, that 15 percent that we move by air is going to be a big problem, isn't it?

General FOGLEMAN. Yes, sir. As I look at all the elements of the mobility structure, prepositioning is in good shape and it is a growth industry. Surface transportation, while we had some problems in Desert Shield with CONUS rail lines and those kinds of things, we have done surveys of rail lines and we think we have programs in place to fix those.

Sealift, while we don't have enough of it yet, what we do have is in better shape because we have sailed it.

Mr. DICKS. And you have the prospects of getting additional roll on/roll off ships, is that correct?

General FOGLEMAN. Yes, sir.

Mr. DICKS. The question mark, the part of this that looks to me to be in very bad shape is the future of airlift and that is why I would hope that as we get to the mark-up and we look at this thing that we would take a long, careful look at the C–17. In my view there is no other option, there is nothing else out there that we can do that gives us that kind of capability, and I would hope that we will stay with it.

Mr. MURTHA. The time of the gentleman has expired. Mr. McDade?

Mr. MCDADE. Thank you, Mr. Chairman. In the interest of expediting the hearing, I yield to my friend, Mr. Young.

OPERATIONAL REQUIREMENTS VS. CONTRACTUAL SPECIFICATIONS

Mr. YOUNG. Thank you, Mr. Chairman. Thank you, Mr. McDade. I am glad to see you back also.

I go along with Norm. I think the C–17 has to be considered a major factor in our lift capability, but I am concerned that the C–17 program is basically falling behind. The initial analysis of the C–17 test flights indicates that the aircraft will not meet its requirements for carrying a maximum payload of 160,000 pounds to a maximum range of 2,400 nautical miles. Is that requirement realistic or is that reliability something that we can work with?

General FOGLEMAN. As you know, I have gotten quite a bit of press and letters from the Congress based on my statement relative to this, a statement that was selectively quoted in the press.

Mr. YOUNG. We all understand that.

General FOGLEMAN. I know that that never happens to this group, but it occasionally happens to people in my business. What we have with the 160,000-pound, 2400-mile specification is that we have a contractual specification and Douglas Aircraft Corporation has an obligation to build an airplane that does that. When I got to the command I was new to this business. I saw this issue seemed to be the focal point not only of all the press, but when I visited the program office, went to the factory, and flew the airplane, everybody seemed to be fixed on this one point.

So I went back to the staff at Air Mobility Command and I asked them to do a couple of things for me. One was go to the customers, the Army and the Marines, and ask them one more time what is it that you want us to carry and how far?

Second, I had them go back and look at what we did in Desert Shield and Desert Storm, how many times did we carry a load that approached those numbers?

Then I had them take the war plans that we have and run them through a mobility model that shows us how the CINCs would be using the airplane.

The answer: in less than five-tenths of one percent of the time, would we ever ask the airplane to do that.

So from an operational perspective, that is an operationally insignificant point, but there is a contractual specification and I did not advocate backing away from the contractual specification.

If after the contractor and the program office have worked hard to try and meet that, if they cannot meet that, then we have to make a decision that says the airplane is not useable or the contractor owes us some consideration for not meeting that point. That has been the thrust of my look at this thing, sir. It is strictly from an operational standpoint.

As was pointed out earlier, the C–17 brings a broad spectrum of capability to the airlift business that we currently don't have. I found that in the program office and at the manufacturer, they were starting to focus on this one issue because it had received so much publicity that I was afraid they would start doing things I would characterize as not real smart from an operator's standpoint. They were looking at removing the core thrust reversers. That would make it impossible to back the airplane up.

Mr. MURTHA. What he asked is the key. The reason the A–12 was cancelled was because everybody kept focusing on this issue and they couldn't meet it so it went out the window. Are they meeting those requirements at this point?

General FOGLEMAN. At this point, they have not tried to meet the requirement.

Mr. DICKS. They didn't try to meet it?

General FOGLEMAN. Sir, it is not to that point in the test program where they can test this.

Mr. MURTHA. The A–12 deficiency was identified by computers so tell us what the computer analysis said.

General FOGLEMAN. In the analysis, they came up with a shortfall and the precise shortfall changes as they incorporate changes to the airplane. General Jaquish can give you the exact details.

Mr. MURTHA. You are the one that is going to have to use this. General Jaquish can tell us the technical details, but how important is it to meet the guidelines to you?

General FOGLEMAN. The analysis says we will only ask this aircraft to do this less than one half of one percent of the time of its life and that looks at using the airplane without air-to-air refueling, which it will have. As a user, I have to tell you that this is not a point that I would spend a lot of time trying to reach.

Mr. DICKS. It is not a show-stopper?

General FOGLEMAN. Absolutely not. Contractually, I recognize there is an obligation there.

Mr. MURTHA. We are interested in whether you feel it has the capability as the user. That is what we are interested in.

Mr. YOUNG. Let me put the question this way. Maybe it would help us a little more. Give us a comparison of the contractually specified flight profile versus what your typical AMC operational profile would be.

General FOGLEMAN. Okay, sir. While I don't have all the details, the primary differences would be with the amount of fuel that we probably put on the airplane in terms of taxing out to take off, the type of climb profile that we would use, and the type of let down we would use on the other end.

Mr. YOUNG. Maybe I shouldn't have asked the question because that really confused me. The type of climb up and let down, would that make that much difference in the two profiles?

General FOGLEMAN. It will make a big difference.

Mr. YOUNG. What is your typical profile, step climb or——

General FOGLEMAN. Normally and you are getting into where—could I come back and give you this for the record?

[The information follows:]

The operational flight profiles AMC aircrews will use to employ the C-17 are substantially different from the contract specification flight profiles. The AMC operational profile allows an aircraft to be loaded with a fuel efficient center of gravity, start and taxi at weights to accommodate the design maximum takeoff weight, climb and cruise at operationally acceptable speeds and altitudes, and perform an en route descent to its destination. If the aircraft is required to divert to another airfield due, to say adverse weather, or the destination airfield being closed for some reason, it could then climb back to a fuel efficient altitude, proceed to an alternate field up to 200 nautical miles away, hold for as long as 45 minutes, then land. Additional fuel reserves ar required only when flying over water or on minimum navigation routes.

The contract specification is less fuel efficient in most cases. It does not allow fuel to taxi the aircraft above our maximum takeoff weight, requires a climb and cruise profile which is not practical in the operational environment, does not give credit for an en route descent, and requires reserve fuel for all routes, not just the overwater or minimum navigation routes. The bottom line is that the contract specification profile is not representative of the way my aircrews conduct business on a day-to-day basis.

Mr. DICKS. You can tell him what is important about this. It is the vulnerability of the aircraft, the issue about the rapid rate of climb out or not.

General FOGLEMAN. That is not the key. It has to do with how you would optimize range. You go back and you look at the process. What happened is in 1979 and 1980, the operator had an operational requirement for this airplane which, by the way, was to only carry 130,000 pounds. So the operational requirement in this airplane, when it started, was that. What happened is that Douglas came in and said, "We can build you an airplane that will carry 172,000 pounds, 2400 miles. So the contractual guy trying to get the best deal, said great. As they started trying to build this airplane, it turned out that their estimates were optimistic, so the contractor said they can't do 172,000. We went through the review processes and that sort of thing. But we must not lose sight of what the original operational requirement really was, the base line operational requirement. As the operator that is what I keep trying to come back to.

DICKS. Where are we now? What can it carry?

General FOGLEMAN. Their computer analysis shows that the airplane, as it exists today, I think comes in at about 7,000 pounds under. The fact of the matter is the airplane flew 2,750 miles with over 160,000 pounds on it in January non-refueled.

Mr. Dicks. What does the C–141 carry? It ends up carrying 55,000, somewhere around there?

General Fogleman. Yes, sir. This is the concern with about reviewing the war plans, and the number of times that we end up even asking an airplane to do this.

Mr. Murtha. You are telling us that you could live or not live with what you have seen so far on the C–17?

General Fogleman. Sir, from an operational standpoint, I could live with what I have seen. That is what the war plan tells me. But again, I am at the mercy of the contractual specifications.

USER REQUIREMENTS

Mr. Murtha. We are worried about you, the user. You are the guy who is on the line. We want to know what you think. You are convinced that this airplane, as far as weight and distance go, you can live with it and it is not worth the extra money we would have to spend to get those requirements. How important are those requirements?

General Fogleman. Sir, I don't think it is worth the extra money or the compromises you would have to make to try and do that. The compromises are cutting down on its ground agility, which is what I need, ability to maneuver on the ground and now it has a straight production commercial engine.

Any time you start perturbing that commercial engine, you start impacting——

Mr. Murtha. Your statement may be the most important statement on the C–17 this year. We have a lot of hearings, but your judgment may kill or have this program go forward. What you are saying is a key.

This Committee tries to rely on the people in the field.

These contractors and so forth aside, we expect the user to be the one that gives us the advice.

GROUND MANEUVERABILITY

Mr. Dicks. I want to clarify one thing. When we were doing this analysis before, in Europe——

General Fogleman. Rhein Mein.

Mr. Dicks. I remember a situation where you could only have two C–5s on the field without completely congesting it. Having those two aircraft actually closed the field. You could put nine C–17s on that same identical field because they can maneuver and operate. Do you remember that scenario?

General Fogleman. Not that specific one, but I understand what you are talking about.

Mr. Dicks. One of the most crucial capabilities of this aircraft is its ability to offload this equipment.

General Fogleman. Not only that, but its ability to take that equipment forward where troop commanders need it and not land at some large airfield somewhere where you have to offload outsize equipment and then you either have to load it on trucks or road march it forward.

It allows you max on the ground. That is the max number of aircraft you can have on the ground for a given piece of concrete at any one time. This airplane greatly improves your max on-ground capability. That is a driving force from my perspective.

I remember when early on in the F–15 program we were deploying simulators to Bitberg, Germany.

They had to come in a C–5. They could land, but could not taxi off so you literally closed the airfield while you downloaded and you turned the airplane around and took it off.

Mr. DICKS. Do you remember how many hours it took?

General FOGLEMAN. I remember it was a problem. I remember we didn't fly for a while that day because the airfield was closed.

Mr. DICKS. With the C–17, you can taxi in, unload and not block the airfield?

General FOGLEMAN. Yes, sir. I fully understand, Mr. Chairman, how important what I am saying is and that what I have said may not be universally shared by other people, but I will tell you as the operator, operational concerns are my primary interest. That is why I took the time after I became the commander to go back and look at operational requirements.

I don't own any Douglas Aircraft Corporation stock. I have no predilection toward that company, but I know what this Nation needs in terms of airlift and the C–17 is the core airlifter for this Nation for the rest of this century and into the next.

We need that capability. That is what disturbs me when we get hung up on a contractual specification. Issues have been raised on the fact that the Air Force looked at this in 1989 and lowered the threshold at that time.

The question is asked, what is the difference? The difference is we fought a war and we got a big database.

The other difference is the Cold War is over. Our tanker force is no longer tied up in SIOP alert. It is available to assist with deployment. So range is not a problem.

So from an operator's perspective, I do not see this as a problem. I could live with it.

RANGE AND PAYLOAD OF THE C–17

Mr. YOUNG. I still have a lot of interest in this contractual specification. You caught my attention when you said that this airplane had actually flown over 2700 nautical miles——

General FOGLEMAN. Slightly over 160,000 pounds.

Mr. YOUNG. That was the actual airplane that flew that mission?

General FOGLEMAN. Yes, sir.

Mr. YOUNG. The problem we are having is the computer flight?

General FOGLEMAN. No, sir. Part of the problem we have is the airplane is not yet certified for over-water flight and other kinds of profiles. So when they flew the 2700 mile profile in January, they flew it within the Continental U.S. They took off at Edwards and landed in Florida. They turned the airplane at Eglin and the next day flew it west-bound to California.

On that leg they flew slightly over 2500 miles. In both cases, when they landed the airplane, they had over 20,000 pounds of fuel remaining, which is more than our normal reserve. The profile says that you will take off, climb to altitude, cruise 2400 miles, let down to 10,000 feet, discover the airfield you are going to land at is closed, you climb back to a medium altitude and go another 200 miles, hold for 45 minutes and then you land. That is the actual profile that they asked the airplane to do unrefueled. And that wasn't the profile that was flown——

Mr. YOUNG. The actual flight did not use that profile?

General FOGLEMAN. No, sir. We cannot do the actual profile until we get further along in the test program. There are other requirements. As they look at the computer simulation, they do not at this time think that the aircraft will be able to do that precise profile.

Mr. YOUNG. Why couldn't you have done that profile on this flight that you flew from Edwards to Florida back to California? Drop down to 10,000 feet, lift up, fly another 200 miles? Why couldn't you have done that in this test flight?

General FOGLEMAN. It has to do with what the aircraft has been cleared to do in a test program. If I could, I would ask General Jaquish to answer that question.

AIRLIFT REQUIREMENT

Mr. YOUNG. Let me give you additional questions on the C–17.

The congressionally-mandated mobility study in 1981 indicated that by the year 2001 our lift requirement would be 66 million ton miles per day. At that time, our capability was 29 million ton miles per day. Where are we today?

General FOGLEMAN. We are at 52 million ton miles per day.

Mr. YOUNG. Do you think we will be able to meet the 66 million ton miles per day by 2001?

General FOGLEMAN. No, sir, that has been supplanted by the Mobility Requirements Study, the congressionally-mandated study. Volume I came out last January.

The new goal that we are looking at is about 57 million ton miles and that is based on the change in force structure and the changing threat. The 66 million ton mile was driven a great deal by the NATO scenario and the requirement to get ten divisions there in ten days. That has changed.

AIRLIFT VS. SEALIFT

Mr. YOUNG. How much of our lift capability today is sealift?

General FOGLEMAN. It is hard to compare airlift and sealift capability using similar metrics. It is like comparing apples and oranges. I measure sealift capability in square feet and airlift capability is measured generally in ton miles. We do not normally look at these as competitive. We look at them as complimentary in the sense that airlift is used in the initial phase while we spin up the sealift. I could tell you the percentage of all passengers and cargo that went to Southeast Asia were in aggregate carried by air and sealift.

[The information follows:]

During Operation Desert Shield/Desert Storm, 99.4 percent of the troops and 13.4 percent of the dry cargo deployed by air with .6 percent of troops and 86.6 percent of dry cargo moving by sea. When petroleum, oil and lubricant cargoes are included in these totals, 94.7 percent of all cargo was moved via sealift to Southwest Asia.

PREPOSITIONING SUPPLIES AND EQUIPMENT

Mr. YOUNG. One of the answers to our lift problems is prepositioning.

General FOGLEMAN. Yes, sir.

Mr. YOUNG. Have the pre-positioned supplies that were used in Desert Shield, Desert Storm, been replaced now?

General FOGLEMAN. Yes, they are either completely reconstituted or will be by the end of this fiscal year.

Mr. YOUNG. Are there plans to renew the maritime prepositioned ships?

General FOGLEMAN. Yes, sir. There is a major initiative to increase the Army prepositioning by nine roll-on/roll-off ships.

Mr. YOUNG. They will be maritime prepositioned?

General FOGLEMAN. Yes, sir.

Mr. YOUNG. Where will you dock those?

General FOGLEMAN. Under the Mobility Requirements Study US TRANSCOM is responsible for conducting a siting survey and we are working that in conjunction with the Pacific Command right now. What we have done is preliminary studies of several possible places. We have pretty well narrowed it down to three, and we are now in the process of going to the State Department to get country clearances for people to do site surveys. Generally, it will be in the Southeast Asia/Western Pacific area to include the possibility of Diego Garcia where we have four anchorages that we could possibly use.

Mr. YOUNG. Are prepositioning plans provided for in the 1994 budget request?

General FOGLEMAN. Yes, sir, to the best of my knowledge, they are.

C-17 AIRCRAFT

Mr. YOUNG. On the C-17 questions, let me give those to you in writing and ask you to respond. I agree with everything you and members have said. If we don't build the C-17, we are going to have to build something just like it in order to meet our requirements in the future. We will do the best we can to make sure you have that kind of mobility.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

C-17 RANGE/PAYLOAD REQUIREMENT

Question. General, as you are aware initial analysis of the C-17 test flights indicates that the aircraft will not meet its requirement for carrying a maximum payload of 160,000 lbs to a maximum of 2400 nautical miles. How important is the attainment of this requirement to you the user?

Answer. The contractual requirement for the maximum payload/range profile is still important; however, from an operational view, the C-17's ability to operate across a wide spectrum of airlift missions is much more essential. Our review of DESERT STORM data shows that only five C-5 missions operated above 160,000 lbs (0.46%)—not significant. In a typical airlift flow of 576 missions to support a lesser regional contingency in Central America, there is only one mission (less than ½ of 1 percent of all missions) where the plan calls for a 160,000 lb load, less than 3 percent at 150,000 lbs (15 missions), and less than 6 percent at 140,000 lbs (32 missions). Even those force deployment plans containing requirements to airlift extremely heavy cargo (ammo, armor, and mechanized infantry), call for the combination of range/payload in the specification for only about 10 percent of the planned loads. In our day-to-day operating environment, there is no operational impact if the maximum payload/range profile is not met. The C–17 loads routinely carried (based on C–141/C–5 experience) an average 68,000 to 130,000 lbs. Air refueling allows the C–17 to carry up to 172,000 lbs for virtually unlimited distances.

Question. The committee has been informed that the contractually specified flight profile used to measure range/payload capabilities of the C–17 is not representative of operational profiles that crews would routinely fly. Is this accurate?

Answer. Yes, the operational flight profiles AMC aircrews will use to employ the C–17 is substantially different from the contract specification flight profiles. C–17 specification profiles were devised in 1981 to aid in consistently judging different contractor C–X proposals. The specification profiles enabled a quick and reliable way to compare contractor proposals and evaluate performance differences. They were not intended for use as judgment criteria in isolation from the aircraft's performance as a whole.

Question. Describe the differences between contractually specified flight profile and a typical AMC operational profile.

Answer. The AMC operational profile allows an aircraft to be loaded with a fuel efficient center of gravity, start and taxi at weighs to accommodate the design maximum takeoff weight, climb and cruise at operationally acceptable speeds and altitudes, and perform an en route descent to an airfield. If the airfield is closed, the aircraft can then climb back to a fuel efficient altitude, proceed to an alternate field 200 nautical miles away, hold for 45 minutes and land. Additional reserve fuel is required only when flying over water or on minimum navigation routes. The contract specification is less fuel efficient in most cases. It does not allow fuel to taxi aircraft above our maximum takeoff weight, requires a climb and cruise profile which is not practical in the operational environment, does not give credit for an en route descent, and requires reserve fuel for all routes.

Question. How has this situation occurred where the Air Force needs to consider a variety of potentially costly modifications to the C–17 to meet a range/payload requirement that is evaluated against a flight profile that the Air Mobility Command acknowledges it won't fly?

Answer. The C–17 was not designed to meet just one particular characteristic in the airlift spectrum such as range-payload performance. Rather it was designed to handle a full range of airlift missions. The original performance requirements in the 1980 C–X request for proposal (RFP) called for a maximum payload of 130,000 lbs to be carried 2,400 miles. When the manufacturer's design solution exceeded those RFP parameters, contract specifications were derived which called for the manufacturer to produce an aircraft which could carry 172,000 lbs for 2,400 miles. This design specification exceeded the stated operational requirement, but obligated the Douglas Aircraft Company to deliver an aircraft to meet the design specification it agreed to produce. The C–17 range-payload threshold reduction to 160,000 lbs at 2,400 nautical miles occurred in December 1989 as a result of the CSAF requirement summit. This represents the optimum unrefueled range and payload mix over the distances from Dover AFB to Lajes, Azores, and Travis AFB to Hickman AFB. It is important to remember that less than 1 percent of flight loads ever reach these gross weights. Too often the magnified importance of 1 percent of a system's total capabilities is allowed to drive costly modifications and potentially degrade the capabilities needed in the other 99 percent.

Question. Two years ago when the Air Force last relaxed the performance requirements for range and payload they were described as threshold requirements—the minimum acceptable performance. Does this hold true today?

Answer. The most appropriate C–17 threshold is the ability of the aircraft to operate across a wide spectrum of airlift missions to include the capability to routinely carry outsized equipment into small, austere airfields.

[CLERK'S NOTE.—End of questions submitted by Mr. Young.]

CONTRACTOR PERFORMANCE

Mr. MURTHA. As enthusiastic as you are, and as some of the Members are, we don't have any aircraft and the company has messed this up so badly. Five years ago we started complaining about this program. They keep going around in circles. If it were to go to the House floor with all the problems they have had, unless we strongly support it, they might take it out anyway. That company has to get on the ball.

I hope you will give them that message when you are talking to them. If you have contact with program directors tell them this thing is dicey as to whether it will make it through this year or not.

Mr. Dixon.

Mr. DIXON. Setting aside the contract specifications, is it fair to say that you are fully confident in the performance and operation of the C–17?

General FOGLEMAN. Sir, based on what I have seen——

Mr. DIXON. That is all I am asking.

General FOGLEMAN. I have personally flown the airplane, I have looked at the test results. I am disappointed, as the Chairman is, that the test program is behind, as a lot of things are.

But I am satisfied with what I have seen.

Mr. DIXON. Setting aside the problems the Chairman alluded to about McDonnell-Douglas's failure to meet the contract specification and schedule, are you fully satisfied with the performance of the C–17?

General FOGLEMAN. Yes, sir. I am trying to think if there is anything in the program other than that point that is bothering me. But I have not seen anything that would have me roll off the program.

Mr. **Murtha.** Congressman Dixon, I know you have a lot of influence with them also, and a lot of workers out there. I hope that you will convey our concern also and tell them how concerned we are about the way that program has been going. You are obviously going to be a key player in this program, whether it survives or not.

Mr. **Dixon.** Mr. Lewis shares the same concern. We have been out there on two occasions.

Mr. **Murtha.** Mr. Darden.

FORWARD DEPLOYMENT OF C-17

Mr. **Darden.** Being a new member of the Committee, I appreciate the opportunity to get the past experience and knowledge of my colleagues here this morning and getting their viewpoints about the C-17. I am not going to spend that much time on that issue because I think you and our colleagues have discussed it quite a bit. Again, I do want to bring up just a couple of matters and get into the overall matter of airlift. As I recall, the Heritage Foundation did a study several years ago in which they expressed some concern notwithstanding the very capable observations made by Mr. Dicks that it had inter- as well as in-theater capabilities, that it was highly unlikely that the Air Force would commit an asset this expensive to the forward edge of the battle area because of the tremendous expense and the vulnerability of this particular asset to destruction by any enemy activity. Tell us, first of all, how much money we have invested in the program?

What will the first airplanes cost? And do you think it is logical that we will be putting the C-17 out to the forward edge of the battle area?

General **Fogleman.** Yes, sir. Right now I believe that we are at about the $6.7 billion point—we have got about $6 billion invested in the program. Again, the program management numbers are not my expertise. General Jaquish should be able to tell you better this afternoon. Most of that is R&D money and the first couple of production lots.

When you start to look at the cost of the airplane, and again, you can talk about fly-away cost, which excludes R&D, we are saying $207 million a copy in 1993 dollars, or you can talk about total program costs, roughly $41 billion. Divide $41 billion by 120 and it will come out to $340 million a copy in then year dollars, a very expensive airplane.

While I haven't seen the Heritage Foundation study, to answer the question about whether or not we would put it forward, I have no qualms about the fact that I would, as a commander, put it forward. But I would also qualify that with a couple of things.

The first is, going forward does not necessarily put it in harm's way. There are more and more situations like Somalia, humanitarian operations where just being able to have access will be a function of how short or how long the runways are, how many airplanes can we get on the ground, et cetera.

OPERATIONS IN SOMALIA

Mr. **Darden**. You don't think it would be at risk in Somalia, for example?

General **Fogleman**. No, sir. I was able to get FAA to certify civilian airliners to go into Mogadishu.

Mr. **Darden**. You don't consider Mogadishu a dangerous place?

General **Fogleman**. I consider it a dangerous place, but in terms of risk versus value, we are paid to take a certain amount of risk and if we are wrong, they get somebody else to do our chores. We have to make a value judgment about risk. Where the airplane will be going into harm's way, we need to look at the context in which we would use it. You would be called irresponsible if you sent any aircraft into a hostile environment without self-protection systems or without the benefits of suppression of enemy air defenses. Depending on how badly a supported CINC needed that equipment or things to go forward, he would, or I would, ask for the required support to make that airport viable. If that required support were not there, I would make a value judgment that says the risk is either worth it or not and I would or would not commit the force. I would tell you that we may soon be facing just such a decision on this if we are asked to airlift forces into Bosnia. The issue will be, will you put at risk C–141s and C–5s in that environment.

Mr. **Darden**. I appreciate your analysis, but if you can prove to me that the C–17 costs $340 million a copy, I want to be the first to support the program. I think the figures will show at least twice that, if not more.

Secondly, I would suggest to you as well that the idea of putting this type of asset upfront—let me suggest you read the study by the Heritage Foundation. I think you will find it helpful.

Let me also say that your predecessor from the U.S. Transportation Command met with us on a number of occasions and lauded as we do the tremendous accomplishments of the Transportation Command in meeting our requirements in the Gulf War.

I think that was certainly an unprecedented success, and really a case study in mobility. It represented to us almost a perfect situation of how the mix could accomplish our purposes. How could the C–17 have enhanced our mobility in the Gulf War?

General **Fogleman**. Well, sir, I know for a fact that we made extensive use of C–130s into small austere strips, some of them road landing areas, when General Schwarzkopf was getting ready for his "hail Mary," when he was using tactical deception to make people think that he was going to come right up into the brunt of the defenses. The number of sorties required to do that and the amount of material that had to be trucked rather than could have been flown there, I think if we were to go back and do the analysis, it would show that that could have been done far more efficiently with C–17s.

Mr. **Darden**. You would have used the C–17 intra-theater at that point?

General **Fogleman**. Yes, sir. That is the beauty of the airplane, it can be used either way.

Mr. **Darden**. You would have committed C–17s into the theater?

General **Fogleman**. If the CINC asked me to do it. I would have recommended it to the CINC based on his closure times.

CURRENT AIRLIFT CAPABILITY

Mr. **Darden**. What is our airlift shortfall today?

General **Fogleman**. Today, if you take the 52 million ton mile figure and you are looking at 57 million ton miles, we are about five million ton miles short today.

But the important thing is how you deliver that and where you can deliver it. So while the C–17, as it would come on, would give us a delta in capability, it will also expand the number of locations that you can take that capability to. That, I think, is an important element or dimension to the program.

Mr. **Darden**. What are you doing in the near-term to maintain and to reach our goal?

General **Fogleman**. Sir, in the near-term, the major program that we have is the C–17. We have programmed, as the C–17 comes on, the retirement of the C–141. In addition, as you know, we are trying to procure a certain number of C–130 aircraft each year, a relatively low production number, but enough to sustain and modernize the force.

Fundamentally, the only program that we have on the books right now to increase airlift capability is the C–17, and anything else we do with the current force will not increase airlift capability.

Mr. **Darden**. Mr. Chairman, that is about all I have, I believe. Thank you very much.

General **Fogleman**. Thank you, Mr. Darden.

Mr. **Murtha**. Mr. McDade.

Mr. **McDade**. No questions.

Thank you, Mr. Chairman.

OFF-THE-SHELF AIRLIFT OPTIONS

Mr. **Darden**. Mr. Chairman, I forgot to ask one question.

In the event that you do go to this other option of buying off the shelf wide-bodied, what is available, what is out there?

General **Fogleman**. I think there are basically three aircraft available at this time that we have looked at. One would be the MD–11, one would be a 767, which is really a narrow-body, but carries much more than the current C–141, and the 747 freighter is out there as a wide body. It has a swing nose that allows you to load from the front. Those are the three aircraft that appear to be available on the market at this time.

Mr. **Darden**. How many wide-bodied cargo aircraft could you buy off the shelf?

General **Fogleman**. The only wide-body that I am aware of that you can buy off the shelf—American, is the 747.

Mr. **Dicks**. They are not buying Airbus, I guarantee you that.

Mr. **Young**. Let me follow up. Those wide-bodies you just responded to Mr. Darden, do any of them have the capability to load from the rear?

General **Fogleman**. No, sir. That is a major limitation. That is, again, why as we would look at some combination of these, because of things like our requirement for the brigade airdrop, you would have to either keep a certain number of C–141s around or that is really why we need the C–17—it is the core airlifter. It is going to give us that capability.

Mr. YOUNG. It has rear entry. You try to use side entry with large containers, you have a hard time getting it turned around to get it in the box.

General FOGLEMAN. Yes, sir. The pallet system has universal rollers. That is why the 747 as a wide-body, has a swing nose you can access.

MATERIAL HANDLING EQUIPMENT

Mr. DICKS. It has the kneel-down capability.

General FOGLEMAN. It cannot get to ground level. You will always need material handling support equipment.

Mr. DICKS. You have bases all over the world now with the ability to off-load 747s.

General FOGLEMAN. The other thing that in the past has discouraged us from looking at commercial derivatives or commercial aircraft that we would use in a military fashion has been the lack of material handling equipment that would give us access to their cargo bays.

As part of our infrastructure upgrade, we have a new program to buy some—what we call 60 K loaders, which will give us the ability to handle commercial aircraft. This was one of the lessons that we learned out of the desert. While we had commercial aircraft coming in there, we didn't have compatible material handling equipment. That caused problems. What we are buying will be good for everything from the C–130 through the wide-bodied commercial.

Mr. DICKS. Is that program in the budget?

General FOGLEMAN. The 60 K loader is in the budget.

Mr. DICKS. These are the kinds of important, but small things that sometimes we forget after conflict.

General FOGLEMAN. I think the thing that is in the next worst shape in the mobility business right after the lifters themselves is our material handling equipment. These platforms, that drive up to the airplane, have the cargo bundles on them that roll right on in. We have been maintaining an old force for a considerable period of time. We need to get on with modernizing the force. That is what this 60 K program does.

OUTSIDE EQUIPMENT

Mr. DICKS. On the question of airlift, most of the outsize equipment goes by sea, isn't that correct? The M–1 tank, the Bradley fighting vehicles, the Apache helicopter, outsize items that can go in the C–5. All three can go on the C–17, too, can't they?

General FOGLEMAN. Yes, sir.

Mr. DICKS. But most of that equipment is transported by sea either from our pre-positioned ships or fast sealift?

General FOGLEMAN. Yes, sir.

AIRLIFT PROGRAM

Mr. DICKS. Regarding the use of existing capabilities, vast amounts of cargo can go into a wide-bodied aircraft. You don't need to ship everything by the C–17. There are a series of things that that plane is optimized for.

General FOGLEMAN. Yes, sir.

Mr. DICKS. There are all kinds of other things that you could put on a cargo plane and ship it; isn't that correct?

General FOGLEMAN. Yes, sir. One of the things—as you know, in order to make the system work, we have standardized our pallets in what we call 463L, which is a designator for a standardized pallet, 88 by 108 inches. Those pallets are useable in most commercial aircraft. There are some that might have to be reconfigured or we would have to buy the kind of rollers to fit that, but that is an important element.

Mr. DICKS. When you think about the issue of how to augment the C–17, are you thinking of this in terms of CRAF or in terms of acquiring the aircraft?

General FOGLEMAN. I would prefer to look at it in terms of organic capability because you need it for surge.

CRAF is sustainment. It is the difference between fast sealift ships and the use of the commercial line fleet. There is a point at which you have to kick that in. Upfront, I would be looking at organic. The advantage would be as we look into the nineties, and get smaller and look at depot and depot manning, where we could go to aircraft or equipment that is already supported by the commercial sector, I think there are some benefits that come to us.

We get other benefits such as: modern engines that meet all the EPA standards, modern avionics that include things like GPS and you get fewer crew members per plane. In life cycle costs, you save a lot of money. On the military side that is one of the big advantages of the C–17, you only have three crew members that you put at risk. To take a C–130 in an intra-theater airlift mission, the average crew will be six or seven people on the airplane.

Mr. DICKS. Over seven people on a C–130 for the intra-theater, where in a C–17 you have three people?

General FOGLEMAN. Yes, sir.

Mr. DICKS. It is the cost of ownership of 767s or 747s over a lifetime that you need to look at. I am told these are much more fuel efficient. Are they more fuel efficient than the C–5?

General FOGLEMAN. Yes. The operating per flying hour is cheaper.

SURFACE TRANSPORTATION

Mr. DICKS. The maintenance number for the C–5 was the highest of any aircraft in the history of aviation, 20 percent of the Air Force O&M budget tied up in the aircraft.

That is why some think it ought to go into the Guard and Reserve. Cost of ownership will be part of our O&M budget for the next 30 years. You said you have problems with some of the railroad connections. I have Fort Lewis and McChord Air Force Base, and we are interested in this plan; you call it fort-to-port. How are we doing on that?

General FOGLEMAN. We have completed the survey. United States Forces Command is in charge of the program. We have committed money in the near-term and it will require a longer term program to bring it up to speed. There are two elements, one to make sure that the rail lines haven't atrophied to the point you can't use them. The classic example is when we started to move the 101 Airborne during Desert Shield, the concept was to take it by rail to Jacksonville, Florida. When we got to Fort Campbell, we discovered the rail line had atrophied and it was no longer useable so we ended up road marching the 101st from Fort Campbell down there. It was good press with all the flags on the 18-wheelers, but it is a hell of a way to go to war. We discovered even if we fix what we have, what we have doesn't always lead us to intermodalism. Because our rail lines that go into forts pull up beside a warehouse and now we are into containers and we don't have the overhead cranes and racks to move things. That is part of another program called the U.S. Army Strategic Mobility Plan.

Mr. DICKS. I am very impressed with the comprehensive approach you are taking to this and we want you to keep after it.

PERSONNEL—MATERIAL HANDLING EQUIPMENT

Mr. MURTHA. General, you mentioned material handling equipment. I am concerned not only with upgrade of the equipment, but the personnel who run it, to the fact when O&M gets cut back and training gets cut back, pretty soon we start having accidents.

When we went to Sarejevo there was a group trying to unload C–130s, and they were running the handling equipment, a fairly simple forklift, into the airplanes. They got a young lieutenant in there from the Royal Air Force and he reduced the time to unload from three or four hours to half-an-hour, a phenomenal change because he knew what he was doing. We have to watch that we don't lose the edge that we built up over the years.

That is why I am so concerned about spending this kind of money on a piece of equipment like the C–17. In this Committee, everybody wants to help, but the money may not be there to help. We may not have the money for this airplane when it comes to the end, as important as it is. I appreciate your frank discussion of this, your concerns about the airplane and the fact that you have the same concerns we have. We appreciate your frankness because this Committee, as much as we know you need airlift in the future, we also realize there are so many money constraints that this may be one of the programs that falls by the wayside.

Mr. Dicks.

AIR DROP CAPABILITIES

Mr. DICKS. Thank you, Mr. Chairman.

One thing, when we had our personal conversation in my office, I asked you about was more precision guided parafoils to assist in being more accurate in our air drop mission. It struck me as humorous when I went through this the first time myself. I understand you are now looking at this, and have recognized this to be another one of those important little things that are overlooked. Accuracy, when you are dropping things from 10,000 feet, becomes a major question and possibly an embarrassment to the country.

General FOGLEMAN. In conjunction with the Army, the Air Force Scientific Advisory Board visited us at US TRANSCOM and we looked at a 90-day test where we will go to this one manufacturer who has—while he has not demonstrated the capabilities of a GPS receiver to steer his parachute, he has, using surrogates, radio control-type mechanisms, demonstrated the capability to steer a parachute from external commands.

So what we are going to do is over a 90-day period, we are going to run a proof of concept test and when it is over, we hope to have not only prove the concept, but we hope to come out of it with perhaps as many as ten sets of this equipment that we could set aside and have available for a very high priority mission if we needed it.

That program has been approved and it is moving forward.

SEALIFT

Mr. DICKS. You mentioned the sealift issue. Could you give us a little update about the elements of this and how you see this upgrade?

This committee understands the Chairman's leadership has been at the forefront of trying to give you money to do a better job on sealift. Part of the money is for pre-positioning, part of it is for new ships, and we are taking old ships and refurbishing them. Could you update us on that?

General FOGLEMAN. There are two elements to sealift. The first is our organic surge capability. Right now that is resident in eight fast sealift ships. These are ships that are capable of cruising at 30 knots having a very rapid closure time to Europe and to the Middle East. Those ships are in better shape than they have been ever. We used six of them during Restore Hope.

Currently, we have three of them active in Restore Hope, the Somali relief effort.

Backing up the organic capability, we have the Ready Reserve Force and that is currently a fleet of 96 ships made up of various types. About 48 of them, are what we call break-bulk ships.

Mr. DICKS. What do we use those for?

General FOGLEMAN. The break-bulk ships are used primarily for ammunition, but also for moving unit equipment. Until we can get on with containerizing our ammunition, these ships turn out to be probably the best way to move ammunition.

Mr. DICKS. It is better to ship ammunition in containers?

General FOGLEMAN. Absolutely. sir. It is much more efficient. Backing up the Ready Reserve Force is our commercial fleet. I would tell you that in support of Desert Shield, we activated 78 out of 96 ships. We then used commercial U.S. flag ships as the delta to provide our sustaining operations. And so the Mobility Requirements Study said there are four things that we need to do to fix mobility. One, we need to increase our organic surge capability and we ought to do that in two ways.

We ought to either buy and convert or build 11 roll on/roll off ships of about 380,000 square foot capability each and put those in the same readiness status as our fast sealift ships. And along with that——

Mr. DICKS. That would give us 19 or 20?

General FOGLEMAN. That would give us 19. Along with the organic surge, another element of the surge capability is pre-positioning. The MRS called for us to again buy and convert or build nine Ro-Ros that would go into the pre-positioning of Army equipment. So that is the additional prepo capability that we are looking at. For the Ready Reserve Force, the MRS called for increased readiness and an expansion from 96 to 140 ships. The Maritime Administration has gone out and bought 12 used roll on/roll off ships off the market. They are currently being delivered and will be converted to U.S. flag standards, and then they will be put in the ready reserve and they will be maintained at what we call a ROS-5 status, you can bring them out and sail them within five days.

That will both expand and help modernize the Ready Reserve Force. We are also looking at whether or not we need to put more tankers in the ready reserve force and evaluating our wartime requirement for container ships.

We are also looking at the mix of ships in the RRF. Those are the primary things we are doing.

Mr. DICKS. The number of government-owned commercial ships is to expand to 140 or 146?

General FOGLEMAN. 140 is supposed to be the number.

Mr. DICKS. Correct that for the record.

[The information follows:]

At the conclusion of Desert Shield/Desert Storm we had 96 ships in the RRF. The Mobility Requirements Study (Volume I) solution includes the expansion of the RRF to 140 ships. This is an additional 19 ROROs (12 of which were purchased in Dec 92), 2 Auxiliary Crane Ships (originally, 4 crane ships were to be added which would have given a fleet size of 142 ships), and 23 tankers. The increase in the size of the RRF tanker fleet is based on the 1985 DoD Tanker Study. As part of the third phase of the Mobility Requirements Study, DoD is examining the requirements for tankers in the RRF. We expect the results of this final phase of the MRS to be completed late this summer and will adjust the MRS solution for additional tankers if necessary.

MARITIME ADMINISTRATION (MARAD)

Mr. DICKS. Currently, the RRF—Ready Reserve Force—is funded and managed on a day-by-day basis by MARAD—Maritime Administration. How is that working?

General FOGLEMAN. Very well. I know that there is a potential to look at transferring that responsibility back into DoD, but I have been unable to see where the savings would be if you did that. The kinds of expertise that you need to maintain a Ready Reserve Force, interface with labor unions, constant interface with shipyards and ship managers are the things that MARAD does well and has as their area of expertise.

Mr. DICKS. So you are saying that that may not be a good idea?

General FOGLEMAN. Yes, sir.

Mr. DICKS. What arrangements currently exist to ensure that acquisitions, maintenance and exercises carried out by the Maritime Administration are in line with the needs of the Transportation Command and the military services?

General FOGLEMAN. One of the new or one of the changed dimensions is that we now have a DoD directive that makes me the single DoD agent for transportation. The DoD instruction gave to CINCTRANS responsibility for breaking out and maintaining oversight of the RRF. So, my command works on a regular basis with the MARAD people determining what the readiness program will be——

Mr. Dicks. If it is being executed.

General Fogleman. We are given full authority to be aboard those ships at any time to check on the readiness, et cetera.

READY RESERVE FORCE

Mr. Dicks. The fiscal year 1994 request for the RRF maintenance and operation is $136 million, over $93 million less than fiscal year 1993. Is $136 million adequate to maintain the RRF in the state of readiness and repair you believe is necessary to support the Transportation Command?

General Fogleman. We are currently reviewing those numbers. Our initial look says that that number will probably be in the ballpark. But we are benefiting right now from all the activity that occurred in the post-Desert Shield/Storm period. Some of these ships that were used have not even completed their retrofit in the shipyards. Some will still be coming out in 1993 and we have a high degree of confidence that they are ready to go in 1994, but in the future, the cost will go up.

Mr. Dicks. That is where you got into trouble last time. It was under-funded by the other subcommittee because they have tough priority choices and they didn't see this as a major responsibility. That is why when we finally broke out 96 ships, half of them had difficulties, as I recall.

General Fogleman. I think out of the 78 ships that we broke out, I think about 54 of them failed to meet their required sailing times.

U.S. FLAG FLEET

Mr. Dicks. When we went to Desert Storm/Desert Shield, how much of what we took went by U.S. assets and how much did the U.S. flag fleet take out? We had to charter ships to take stuff—do you remember how much that was? Do you have any idea what the proportions were?

General Fogleman. I have seen a pie chart and I don't remember the number. In the aggregate, when we get into a sustainment mode around 85 percent of all our sustainment lift, we turned to commercial flag carriers to carry that.

Mr. Dicks. So we have to go out and charter up to 85 percent of the capability to get things out there?

General Fogleman. In a sustained mode. I can put it in numbers this way. The total sustainment requirement is about 90,000, 20-foot equivalent unit containers. Of that 90,000, what we can move with our——

Mr. Dicks. Is that week or a day or a month?

General Fogleman. That is for a war plan, for the closure period. We are probably talking 180 or 260 days. What we can do with our organic forces and with the ships that we have under contract is somewhere between 30 and 40,000 of those. It is something along that.

I will give you the exact numbers for the record.

[The information follows:]

During the Gulf War, 44.7% of the dry cargo delivered by sealift was carried on U.S. Government controlled U.S. flag ships. These assets include the FFS, MPS, PREPO, RRF, and ships under charter to MSC prior to 7 August 1990. The commercial U.S. flag fleet augmented the MSC controlled ships to carry an additional 21.5% of the total dry cargo.

Mr. DICKS. So the continued existence of a U.S. flag fleet is of strategic importance to military mobilization if those numbers are correct, isn't that true?

General FOGLEMAN. In my view, absolutely, sir.

OPERATING SUBSIDIES

Mr. DICKS. Two major U.S. flag ships operators, Sea Land and American President Lines, have indicated they will re-flag their ships to foreign flag unless a new operating subsidy program is implemented by the Transportation Department. Do you believe the contribution of a U.S. flag fleet to your mobility plans is worth up to $4 billion in operating subsidies over 15 years as proposed by Sea Land and American President Lines?

General FOGLEMAN. I wouldn't be able to tell you whether it is worth $4 billion, sir.

Mr. DICKS. It is like CRAF—we are chartering these ships and they are crucially important in order to get the job done.

General FOGLEMAN. They are important from two perspectives.

First, that they are there and that they are U.S. flagged, so we have some high degree of confidence that they will respond to the call when asked.

The second thing is that their very existence means that we will have a U.S. merchant marine force and, of course, that is the force that mans our Ready Reserve Force ships. So it is important from both perspectives that the bottoms be there and that the presence of the bottoms on a day-to-day basis maintains our Merchant Marine.

MERCHANT MARINE

Mr. DICKS. Crewing is an issue. As I understand it, a number of people who were retired had to be dragged back in to operate these ships because you didn't have the crews, is that also accurate?

General FOGLEMAN. The problem is a dwindling U.S. Merchant Marine. One of the major problems was that even where we had merchant mariners who would have come out and crewed the ships, they did not have the legislative protection that Reserve and Guardsmen had in terms of rights of replacement.

In today's newspaper, I saw that the House has passed a bill which would ensure this. I think this is a vital piece of legislation for our merchant mariners and for our crewing of the Ready Reserve Force.

Mr. DICKS. As I recall, the president of CSX, which owns Sea Land, said that they had some difficulty with the idea of TRANSCOM being able to call them and telling them they have to go, and carry your stuff to wherever. Was the problem dealing with their own customers and business, or was that posturing on this $4 billion?

COMMERCIAL UTILIZATION

General FOGLEMAN. It is potentially a problem. As I met with the leaders of this industry, I was utterly surprised when I asked them the question how many days a year do you utilize one of these container ships, because what I am used to aircraft utilization. They looked at me in dismay and said 365 days a year. They design them and build them so they can do maintenance underway.

When they are not underway, they are not making any money. So the fact of the matter is they try to stay heavily scheduled. What becomes critical to us and to them is if, as we start into some kind of an emergency, we were able to get together with them in a joint planning perspective and allow them to pool their assets with protection from anti-trust. They would be able to respond on a more timely and a time-phased basis.

From my perspective, that is one of the elements that ought to be included in any new maritime reform legislation.

Mr. DICKS. Are you working that problem?

General FOGLEMAN. Sir, I would tell you that I personally have met with Secretary Pena, not with the intention of working that, but the subject came up. Then I became engaged with his principal who is working that. At the worker bee level within OSD and the Joint Staff, we are staying engaged in what it is that they are doing.

But there is no DOD position on that.

Mr. DICKS. It seems to me that at some juncture here—this Committee has taken such an interest in the transportation issue because we see it as vitally important, especially in the future when we have fewer forces and mobility will be crucial.

I hope you will keep us informed if you think there are problems here that we need to communicate with other colleagues on as legislation is being developed. We are not going to be able to counter on this whole U.S. flag carriers that are so crucial. I didn't realize until you told us, Mr. Chairman, that over 60 percent——

General FOGLEMAN. Over 65 percent of our sustainment cargo——

Mr. DICKS. If we are in a war, over 65 percent of it has to come from the U.S. Merchant Marine. So if we don't have these ships or they can't be called upon, the whole effort will be called into question. We used some foreign flags, didn't we?

General FOGLEMAN. Yes.

Mr. DICKS. How did that work?

General FOGLEMAN. I think it worked well, because you had such consensus for the action that was going on.

OVERCHARGES FOR COMMERCIAL SERVICES

Mr. MURTHA. Did they overcharge us?

General FOGLEMAN. I don't know.

Mr. MURTHA. Answer that for the record. I have heard charges that they substantially overcharged us.

Mr. DICKS. I don't think it was just the foreign flags.

Mr. MURTHA. Give us an idea of what you think were recent contracts you were forced to sign.

General FOGLEMAN. I will take that for the record and make sure that I give you the correct number on sustainment.

[The information follows:]

A GAO investigation on carrier overcharges was conducted after the Gulf War. Virtually all carrier charges were found to be fair and reasonable. At the present time, MSC is evaluating only one potential claim, valued at $18 million, against one U.S.-flag liner company. This case involved movement of retrograde cargo from Southwest Asia. There are no cases pending against any foreign flag carrier.

NATIONAL DEFENSE SEALIFT FUND

Mr. DICKS. Any other priorities that you don't think we have had a chance to discuss here today?

General FOGLEMAN. There is one issue that I would compliment the Congress on their action in establishing the National Defense Sealift Fund. I would also tell you that as it is currently constructed, that we are putting forward to OSD some legislative proposals that might make it a little easier to administer the funds.

As it is now, it is commingling some accounts, like O&M accounts and ship building accounts. As the TRANSCOM commander, I have concerns because everywhere I go I get the question that we have been giving you money for several years, and there are no ships coming out the other end.

Mr. DICKS. How do you answer that?

General FOGLEMAN. It is under new management, sir. We now have some RFPs on the street.

Mr. DICKS. What recommendations would you make for adjusting this approach?

General FOGLEMAN. I would like to have this come forward through OSD in a legislative proposal. As CINCTRANS, I am responsible for the business operating funds for transportation, and I would like not to see these funds commingled to the extent that they are. Right now we are dependent upon internal agreements within OSD to work these accounts out.

Mr. MURTHA. I was under the understanding that General Powell got involved and it finally started to move forward. You are telling me it is still not moving forward?

General FOGLEMAN. No, sir. It is moving forward.

Mr. DICKS. Is the issue how this is funded?

General FOGLEMAN. I may be burdening the committee——

Mr. DICKS. This isn't something Congress has done to you. Are we saying take it from there, take it from there?

General FOGLEMAN. We have some recommendations on how we might want to change that legislation to more clearly delineate what the money is going to be used for.

Mr. MURTHA. We would like to see them because I personally take an interest and the Committee supports wholeheartedly this effort. Have them to us as soon as you can.

General FOGLEMAN. Yes, sir.

[The information follows:]

The NDSF legislation co-mingles acquisition funds for common-user sealift ships and service-unique non-sealift vessels, such as the Aviation Logistics Support Ships and Hospital Ships. This fund was created to specifically focus our strategic sealift acquisition effort. The inclusion of non-sealift vessels in the purposes for which monies from the NDSF can be expended clouds this focus. We have forwarded a recommendation to the Joint Staff to delete these non-sealift vessels from the NDSF.

Mr. **Murtha**. Thank you very much, General. We appreciate your coming before the Committee, and we look forward to working with you. We will have further questions for the record. The Committee will adjourn until 1:30 this afternoon.

[Clerk's note.—Questions submitted by Mr. Dicks and the answers thereto follow:]

AIRLIFT OPTEMPO

Question. General, I believe that the U.S. has participated in a level of peace time operations that has reached an all time high. It is my understanding that with regard to Somalia, that we faced a number of problems with the C–5, and the C–141, and even some with the C–130. Reports indicate that in 1992—definitely a busy year for airlift—that the C–141 for example, only 66%of the active fleet was available, and only 27.1% was Fully Mission Capable. The statistics are not much better for the C–5 and the C–130.

How will those problems be addressed in the future?

Answer. Aircraft availability has been a major issue for this command. Many of our C–141 and C–5 aircraft are in depot undergoing inspections and repairs. Today, 55 percent of the C–141 fleet is still restricted. I have committed a minimum of 20 aircraft to aggressive repair programs in order to alleviate all restrictions by 30 Sep. 93. This is combination with other scheduled inspections and modifications means approximately 20 percent of the fleet is in depot and not available. Our Fully Mission Capable rate will increase as operating restrictions are relieved.

While it's true that initially we had problems with C–5s during Operation RESTORE HOPE, we improved reliability of the C–5 by increasing use of the C–5B for those missions. We currently have on-going programs to upgrade A model aircraft to B the model configuration. Two of these programs are the MADARS II system upgrade modification and the main landing gear actuation system upgrade. The overall reliability of the C–5A will improve and the Fully Mission Capable rate will increase from the current average of 44 percent, once these and other mods are accomplished.

The current AMC C–130 Fully Mission Capable rate is 64 percent. Modifications and upgrades to navigation systems, electrical generation systems, and bleed air ducts will further increase the Fully Mission Capable rate.

C–141 SLEP

Question. General, in your statement, you indicate that other alternatives to the C–141 SLEP may emerge. What kind of alternatives is TRANSCOM looking at? Can they provide reprieve to the current deficiencies and restrictions that we have seen in the current inventories for airlift?

Answer. My staff has been examining several options. None of these options by themselves, however, give me the operational flexibility I need to support the warfighting CINCs—the C–17 does. To meet our nation's air mobility needs, our airlift force must possess certain, specific characteristics. We must give the President the flexibility he needs in deploying and employing our military forces. We must meet the needs of the warfighting CINCs in many different environments. Any airlift force mix must have these characteristics, but every aircraft in the mix does not necessarily need to meet each requirement.

At the core of my force I need an airlifter with operational flexibility and combat capability; as a minimum, it must be able to operate into austere fields with little support (in the form of maintenance or loading equipment); it must be airdrop capable; it must be capable of combat on- and off-load (engines running). It must be able to carry what we call "oversize" cargo, mostly military equipment that is too long and bulky to carry on many civilian-type aircraft, and the floor of the aircraft must be strong enough to carry large single pieces of heavy military equipment. The C–141 has served in this core airlifter role for many years. The C–17 will form the core of the airlift force of the future. It meets every requirement and gives me the additional flexibility we need too carry outsize cargo into airfields with very limited parking space and short runways. With the C–17, we can take the large, heavy equipment forward either landing or by airdrop, where regional commanders need it.

Each option that my staff has looked at would complement the core airlifter, not replace it. These options are: the restart of the C–5 production line, C–141 SLEP, and buying commercial derivative aircraft. The commercial derivatives offer great reliability, efficiency, long range, modern technology, and increased cargo carrying capability. However, no commercial derivatives meet the requirements for my core airlifter. All commercial derivatives require extensive ground support equipment to load and unload, none can airdrop troops or equipment, and most have restrictions on carrying oversize or very heavy equipment. These aircraft would give relief to some of the current deficiencies and restrictions of our current airlift force. However, any commercial derivative aircraft would complement the C–17, not replace it.

Other requirements for our airlift force mix include: the capability to carry outsize cargo, efficient bulk cargo capability, and sufficient numbers of airframes in the active duty force to meet peacetime contingencies (especially humanitarian airlift) when the reserves are not activated. The C–5s in the current force carry outsize cargo, though only to large airfields with large parking ramps. We have sufficient C–5s to accomplish this mission in all regional contingency scenarios. The addition of the C–17 will enhance our outsize carrying capability by allowing us to airlift the Army's largest equipment into austere airfields with short runways and limited ramp space—directly to where the combat commander needs it. More C–5s (from a restart of the C–5 production line) would not add new capability, other than pure bulk/oversize cargo carrying. Commercial derivatives would give us this same extra capability—airlifting "generic" cargo—more efficiently and reliably. The C–5 is not a viable core airlifter.

None of these alternatives can fill our core airlifter shortfalls, but could be used to address near term airlift shortfalls. The commercial derivatives would greatly enhance our airlift force mix in terms of range, efficiency, and ordinary cargo delivery. None of the alternatives—commercial derivatives, new C–5s or C–141 SLEP, replace the combat capability and operational flexibility that the C–17 brings to our airlift force mix.

TANKER UTILIZATION

Question. It is my understanding that the short falls the Air Mobility Command faced during the increased air life requirements were addressed with the temporary conversion of tankers-did this not then cause a shortfall in tanker capability?

Answer. The KC–10 is a dual use mobility asset capable of performing either aerial refueling or strategic airlift missions. Due to the high priority of cargo movement during the Operation Restor Hope, and the KC–10's excellent cargo capacity and long-range capability, Air Mobility Command made a conscious decision to use KC–10's in a strategic airlift role. If another contingency had surfaced during this time frame that required a concentrated air refueling effort, we could have redirected the KC–10's to support the air refueling requirement. The fact that both tanker and airlift aircraft are now assigned to one command, Air Mobility Command, gives me much greater flexibility in inter-flying these assets.

PRECISION GUIDED PARAFOILS

Question. A recent report has been released discussing the use of precision guided parafoils to assist in a more effective airdrop mission. The report indicates that the use of this precision guided mission may be cheaper than the current methods. Can you elaborate on this newly developed capability? Could these parafoils be implemented soon enough to assist us in a more effective air drop in Bosnia? How quickly could the use of parafoils be implemented?

Answer. The AF Scientific Advisory Board (SAB) convened at HQ Air Mobility Command on 9–10 Mar 93 to define a demonstration program for precision airdrop using a GPS-guided (Global Positioning System) parafoil delivery system. They determined it was possible for the Army and the Air Force to conduct a 90-day technical feasibility study for a cost of $2–4 million. The unit cost will be at least $100,000 with future cost reduction studies and increased lot sizes making it more affordable but not as economical as the current airdrop methods. However, this system has the potential to put a very high value asset on a small target area.

The relief effort in Bosnia using AWADS (Adverse Weather Aerial Delivery System), GPS, and current tactics and techniques has been very effective. A GPS parafoil is not really an option in the Bosnia situation because of the limited development of the system and the number of units required to sustain such an operation.

[Clerk's note.—End of questions submitted by Mr. Dicks.]

THURSDAY, MARCH 25, 1993.

COMMANDER IN CHIEF, UNITED STATES CENTRAL COMMAND

WITNESS

GEN. JOSEPH P. HOAR, U.S. MARINE CORPS, COMMANDER IN CHIEF, UNITED STATES CENTRAL COMMAND

INTRODUCTION

Mr. MURTHA. The Committee will come to order. Today the Committee welcomes back General Joseph P. Hoar, Commander-in-Chief, U.S. Central Command.

The Committee will receive updates on the ongoing crises in the Central Command area of responsibility including Somalia, Iraq, and the arms buildup in Iran.

Centcom's area of responsibility is one of the most volatile regions in the world and America has, of course, extensive national security interests in the region.

We appreciate what you have gone through, General. As you know, a number of Members went over to Somalia with me. We had a great visit. We are so proud of the troops over there and the fine work that they are doing. General Johnston is living in what I consider as austere conditions as anybody could live under. The attitude when I was there was that they felt it was an important mission and that they were doing very well. We came back and said, "We have done our job. Let's get them out as soon as we can."

I would be interested in your assessment of Somalia and then Iraq and the arms buildup in Iran.

We will put your full statement in the record, General, and then we will get right to the questions.

SUMMARY STATEMENT OF GENERAL HOAR

General HOAR. Mr. Chairman, first of all, it is a distinct honor and pleasure to be here this morning. I have a full statement that, with your permission, I would like to place in the record. I have a few opening comments, if I may, and then I would be happy to take your questions.

1992 was a demanding year as the central region continued to be the most volatile, most challenging area of the world. We made a great deal of progress in enforcing U.N. sanctions, strengthening ties with our friends, preparing for future contingencies, and supporting security and stability.

On the other hand, significant problems continue to plague this area. Regional antagonists continue to present threats to our vital interests, civil wars rage in several countries, and radical movements threaten the stability of others.

Ongoing operations have occupied much of our attention this past year. We continue to lead the maritime intercept operations in the Red Sea and enforce the no-fly zone in Southern Iraq, and we work together with the international community to enforce U.N. sanctions. Iraqi intransigence requires constant vigilance.

As you know, we are also conducting humanitarian operations in Somalia; an important use of military forces in a nontraditional role. Our effort began in August 1992 with Operation Provide Relief. When private relief efforts could not meet the growing demand for food in the famine-stricken Horn of Africa, we began an emergency airlift of supplies to Kenya and Somalia.

Throughout the fall, we assisted with food deliveries but warring factions in Somalia prevented sufficient supplies from reaching their destinations. As a result, President Bush ordered the conduct of Operation Restore Hope to secure ports and relief centers, establish order, and escort convoys to outlying areas.

As you noted, we are now beginning to turn long-term tasks of rebuilding Somalia over to the United Nations.

These operations in the Arabian Gulf, the Red Sea, and the Horn of Africa, undertaken under the auspices of the United Nations, were departures from the more traditional roles and missions of the U.S. military. Undoubtedly we will again be challenged by these types of operations.

These recent activities in the Gulf and the Red Sea serve to underline the importance of our enduring vital national interests which face persistent threats. Protecting these interests is the reason USCENTCOM was formed, and it remains our central focus.

There can be no question of the importance of this region to the United States. With over two-thirds of the earth's known reserves of oil, the Arabian Gulf littoral states sustain the world's industrialized economies; and the three critical waterways surrounding the Arabian Peninsula link essential sea lines of communication.

In an increasingly interdependent global economy, our well being depends on the free flow of oil and on the use of these strategic waterways. Regional stability is crucial to ensure access to oil and the free flow of commerce. Achieving this stability will require our dedicated efforts, and those of our partners in the area.

There are many threats to our interests. Iraq retains a significant military capability despite devastating losses during the Gulf War. Iran, on the other hand, is undertaking a steady military rebuilding program, including the acquisition of advanced aircraft, missiles, and submarines. Iran continues to export Islamic radicalism, actively seeks hegemony over the region, and has become the primary long-term threat to stability in that region.

Additionally, many regional states are pursuing programs to acquire and produce weapons of mass destruction. They incorrectly view these weapons as necessary to ensure their survival. This will be the major challenge to us during this decade.

To cope with the unique challenges of the region, CENTCOM pursues a long-term and flexible strategy of deterrence which permits a seamless transition from peace time through contingency to wartime operations.

To protect enduring American interests and achieve regional stability, we pursue a three-pillared coalition defense strategy comprised of active forward presence, a vigorous combined exercise program, and appropriate security assistance. Continued U.S. access in peacetime is both a prerequisite and a product of that strategy. We must maintain our current level of effort for the strategy to succeed.

Threats to our interests and ongoing operations demand high levels of forward presence, now and for the foreseeable future. This presence, while primarily naval in character, also includes the need for shore-based aviation and land forces, as well as sufficient prepositioned stocks. This presence demonstrates our resolve and allows us to rapidly respond to contingencies.

We are now exercising with our regional partners in the area at five times the pre-Desert Shield rate. These combined exercises are an important element of our defensive strategy. They enhance interoperability, contribute to mutual defense capability, and demonstrate our resolve.

Our security assistance programs bolster regional self-defense capability and contribute to stability. Countries in the region are seeking U.S. arms, and we have a unique opportunity to enhance security through controlled sales of American weapons.

By allowing our friends to bear a larger share of their defense burden through the purchase of U.S. arms to meet their legitimate defense needs, we not only promote self-sufficiency, but ensure that should we again have to fight side by side with them, we will have the advantage of interoperable equipment and procedures. Additionally, our programs, which provide conventional weapons to our friends, reduce their perceived need for weapons of mass destruction and help reverse the trend toward proliferation.

Our friends and allies share an important part of the responsibility and burden for maintaining stability and security, and CENTCOM relies heavily on their contributions. For example, all of the Gulf Cooperation States have made great strides in sharing the burden of regional defense. They have exercised with our forces and have contributed, in varying degrees, access, basing, financing, fuel, transportation, subsistence, and other resources in support of our efforts.

We have made good progress in improving our ability to protect our interests militarily. We have improved interoperability with regional forces through combined exercises and security assistance, enhanced our logistics readiness through progress on prepositioning and support arrangements, and expanded our communications and intelligence infrastructure in theater.

In the future, fiscal realities will reduce our capability to conduct and sustain combat operations. Accordingly, our coalition partners must assume a greater share of the burden of their defense.

Regional defense is built on three tiers. Tier one consists of each friendly state providing for its own self-defense. Tier two is collective defense by regional states, such as the GCC, against a common threat. Tier three is military assistance from the United States and other Western powers when tiers one and two are unable to deter or defeat aggression.

Defense cooperation agreements have bolstered the tier one self-defense capabilities of our friends. However, regional partners continue to have political differences which preclude the kind of cooperation necessary to make tier two defense effective, creating a dependency on the extra-regional support of tier three forces. Nevertheless, we hope to continue our progress in this area through increased use of multilateral exercises involving several regional states.

Our strategy is dependent upon several key capabilities: first, naval forces for presence and contingency response; then adequate strategic sealift and airlift, specifically additional roll-on/roll-off ships and the C–17. Strategic lift is essential to deploy and sustain forces across the great distances involved.

To some extent, we can reduce the massive demand for lift early in a crisis through prepositioning.

Next, we need military satellite communication systems to provide command and control capability in this vast, harsh environment with limited host-nation infrastructure.

Also, commanders require improved tactical reconnaissance and other intelligence architecture for timely and accurate information.

Finally, we must retain sufficient active force structure to meet our demanding mission requirements.

To maintain deterrence, and if deterrence fails to meet our more demanding wartime requirements, we must retain sufficient active force structure. Last year I commented that the base force met CENTCOM requirements. Cuts below that level must leave a balanced, joint force capability with sufficient Army divisions, Air Force wings, aircraft carriers, surface combatants, and marine forces at high readiness levels to meet another challenge of the magnitude of Desert Storm.

Particularly important is the requirement to main a sufficient number of aircraft carriers and amphibious ships to meet our peacetime requirements. Carriers and amphibious ready groups provide us essential flexibility. For example, just prior to Operation Restore Hope, we had a carrier in the Arabian Gulf in support of Operation Southern Watch. We moved it to a location off the coast of Somalia in support of Restore Hope. Then, in response to Iraqi violations, we moved the carrier back into the Gulf to conduct strikes, while keeping an amphibious ready group with embarked Marines in Somali waters. This kind of flexibility is critical in the Central Region.

In conclusion, the Central Region continues to grow in importance, and remains the place where U.S. vital interests are most likely to be directly threatened. The demands of the Central Region require significant commitment of resources to protect our interests, while efforts continue to reduce the budget.

The men and women of the United States Central Command stand ready. We will take the actions necessary to meet the challenges and protect our enduring national interests in the Central Region.

I am ready to take your questions, Mr. Chairman.

[The statement of General Hoar follows:}

REVISED

UNITED STATES CENTRAL COMMAND

POSTURE STATEMENT

PRESENTED TO THE 103rd CONGRESS BY
General Joseph P. Hoar
Commander in Chief
United States Central Command

OFFSET
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GENERAL JOSEPH P. HOAR
UNITED STATES MARINE CORPS

General Joseph P. Hoar is the Commander in Chief, United States Central Command, MacDill Air Force Base, Florida.

General Hoar was born on Dec. 30, 1934, in Boston, Massachusetts. He was commissioned a second lieutenant in the Marine Corps in 1957, after graduating from Tufts University, in Medford, Mass. After completing The Basic School, Quantico, Va., his first assignment was as a rifle platoon commander in the 5th Marines. He served subsequently in the 1st Battalion, 1st Marines at Camp Pendleton, Calif., and on Okinawa as a battalion staff officer.

His first non-Fleet Marine Force assignment was at Marine Barracks, Yorktown, Virginia. Barracks assignments included platoon commander and guard company commander. After a short tour at Marine Corps Base, Camp Lejeune, N.C., as Assistant G-1, he reported to the 2nd Marine Division. He commanded Company M, 3rd Battalion, 2nd Marines and served as the Battalion Operations Officer while a member of that organization. In 1966, he was ordered to Vietnam and served as a battalion and brigade advisor with the Vietnamese Marines.

On returning to the United States, he reported to Headquarters Marine Corps, Washington. During his three-year tour, he served in the G-3 Division and as Special Assistant to the Assistant Commandant of the Marine Corps.

In 1971, he returned overseas where he was Executive Officer of the 1st Battalion, 9th Marines. During the period 1972 to 1976, General Hoar was assigned as an instructor at the Marine Corps Command and Staff College; then returned to Headquarters Marine Corps for duty in the Personnel Management Division.

General Hoar returned to the 1st Marine Division in 1977 and commanded the 3rd Battalion, 1st Marines. Relinquishing command of the battalion, he was reassigned briefly to the Division Staff, and during this time, was promoted to Colonel. In 1979, General Hoar once again returned to the 1st Marines. He commanded the regiment until April 1981. He then joined the 31st Marine Amphibious Unit and took command on board the USS Belleau Wood in Freemantle, Australia, in June 1981. During the following year, the MAU participated in three Indian Ocean deployments.

Upon returning to the United States, General Hoar was assigned to the Marine Corps Recruit Depot, San Diego, as the Assistant Chief of Staff, G-1. While serving in this capacity, he was selected in February 1984 for promotion to brigadier general, and was subsequently assigned duty as the Assistant Division Commander, 2nd Marine Division. The next year he was ordered to Washington as the Director, Facilities and Services Division, Installations and Logistics Department, Headquarters Marine Corps. He served in this capacity until ordered to Parris Island in March 1987 as the Commanding General, Marine Corps Recruit Depot/Commanding General, Eastern Recruiting Region. He was advanced to major general later that year. In the fall of 1988, he reported to the Commander in Chief, U. S. Central Command and assumed duties as the Chief of Staff. He returned to Headquarters Marine Corps for duties as the Deputy Chief of Staff for Plans, Policies and Operations in June 1990, was appointed to the grade of lieutenant general on July 1, 1990, and served in that capacity for one year. General Hoar assumed his present position on August 9, 1991.

General Hoar has a masters degree from George Washington University, and has graduated from the Marine Corps Command and Staff College and the National War College.

His personal decorations include the Defense Distinguished Service Medal; the Bronze Star Medal with Combat "V" and gold star; and the Meritorious Service Medal with gold star.

General Hoar and his wife, Charlie, reside on MacDill Air Force Base. She is a licensed psychologist. They have five grown children.

FOREWORD

Recent events have begun to define the future role of the U.S. military in a post-Cold War world, and in particular, the part to be played by the U.S. Central Command. The collapse of the Soviet Union drastically reduced the threat of global nuclear conflict and created uncertainty about remaining threats to U.S. interests. The bipolar superpower competition in the past ensured a degree of stability, but it also masked potential regional conflicts. Though actual and potential hot spots have surfaced in Europe, Latin America, and the Pacific, in the Central Region Iraq's aggression directly threatened our vital interests. Operation DESERT STORM demonstrated the commitment of the international community to restore order in the Gulf and ensure free access to its oil reserves. This commitment continues today.

Although events of 1992 in the Central Region were not on the same scale as the Gulf War, they were significant in lasting impact. The U.S. continued to lead the Maritime Intercept Operations (MIO) in the Red Sea to enforce the UN embargo on selected goods destined for Iraq. In August, Operation SOUTHERN WATCH established a no-fly zone in southern Iraq to monitor Iraqi compliance with UN Security Council Resolution 688 prohibiting repression of the local population. When Iraq denied permission for UN personnel to fly their own aircraft to Baghdad, and violated the no-fly zone with air operations and threatening deployment of surface-to-air missiles, a coalition military response was required to force compliance.

When humanitarian relief efforts were stymied by insecurity and a growing demand for food in the famine-stricken Horn of Africa, Operation PROVIDE RELIEF began an emergency airlift of supplies to Kenya and Somalia. However, warring factions in Somalia prevented delivery of sufficient food to its destination until December when Operation RESTORE HOPE forces secured ports and relief centers, established order, and escorted convoys to outlying areas. Having achieved our objective, we are now preparing to hand over to the UN the long-term task of rebuilding Somalia.

The operations in both the Arabian Gulf and the Horn of Africa were undertaken under the auspices of the United Nations, with the support of a coalition of countries recognizing the need for action. They were also departures from the more traditional roles and missions of the U.S. military. It is likely that the Central Command will again be challenged by nontraditional missions, while maintaining its readiness to defeat outright aggression.

The Central Region is as volatile as it was a year ago, and U.S. vital interests are genuinely threatened. Accordingly, our commitment to stability must remain strong. Through forward presence, combined exercises, and security assistance, we demonstrate our resolve and willingness to contribute to the legitimate defense needs of our friends. Only through active engagement can we continue to influence positively the security of this vital region. Steadfast dedication to this task is the hallmark of the United States Central Command.

J. P. HOAR
General, USMC
Commander in Chief

1993 POSTURE STATEMENT

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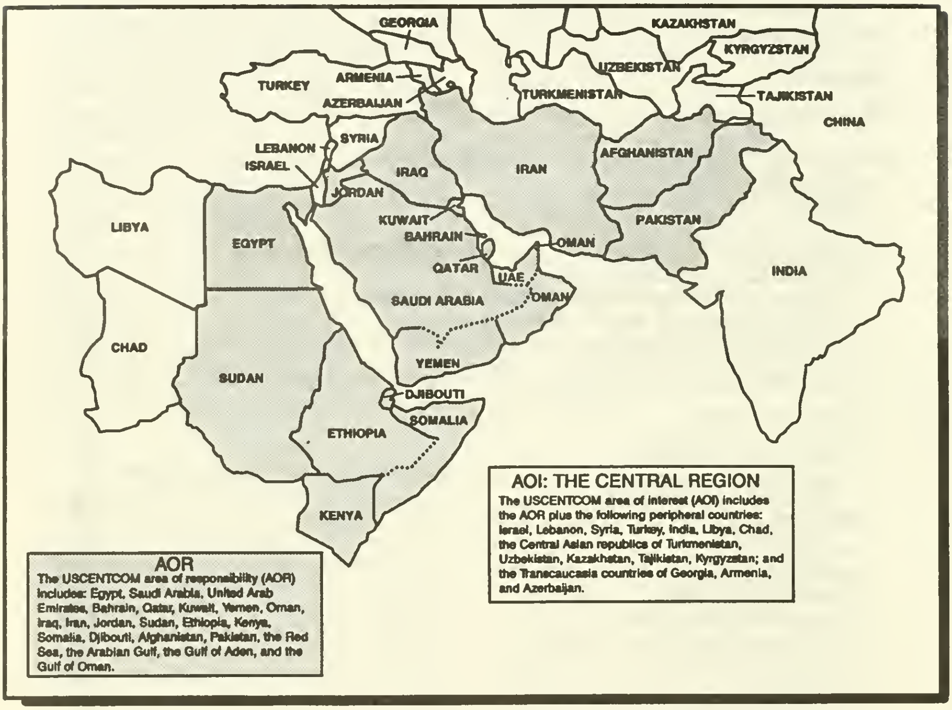
USCENTCOM AREA OF RESPONSIBILITY



AOI: THE CENTRAL REGION

The USCENTCOM area of interest (AOI) includes the AOR plus the following peripheral countries: Israel, Lebanon, Syria, Turkey, India, Libya, Chad, the Central Asian republics of Turkmenistan, Uzbekistan, Kazakhstan, Tajikistan, Kyrgyzstan; and the Transcaucasia countries of Georgia, Armenia, and Azerbaijan.

AOR

The USCENTCOM area of responsibility (AOR) includes: Egypt, Saudi Arabia, United Arab Emirates, Bahrain, Qatar, Kuwait, Yemen, Oman, Iraq, Iran, Jordan, Sudan, Ethiopia, Kenya, Somalia, Djibouti, Afghanistan, Pakistan, the Red Sea, the Arabian Gulf, the Gulf of Aden, and the Gulf of Oman.

EXECUTIVE SUMMARY

The United States Central Command's area of responsibility (AOR) is a culturally diverse and volatile region comprised of eighteen nations from Pakistan through the Arabian Gulf and Red Sea littoral states to the Horn of Africa. Additionally, the area of interest (AOI) is made up of countries in close proximity to the AOR that have significant influence on events there. Vast oil reserves and access to strategic waterways make the region vitally important to the United States. The health of an increasingly interdependent global economy depends on uninterrupted access to Arabian Gulf oil. Additionally, security of the regional sea lines of communication is essential to the unimpeded flow of world trade. The new national security strategy recognizes these facts as it shifts toward regional contingencies most likely to threaten U.S. interests. The Central Command strategy in this vital region is to deter aggression and defend the interests of the United States.

The countries of the Central Command AOR are situated in three distinct but linked areas: South Asia, the Middle East, and northeast Africa. Each area has unique characteristics and presents different challenges. However, religious and ethnic conflicts, natural disasters, and military imbalances all threaten the stability of the region.

CENTCOM's South Asia area consists of Pakistan and Afghanistan; both are important to the United States and they face daunting challenges. Their developing relationships with the Central Asian Republics to the north, along with Iran's military buildup to the west, add new dimensions which could change the geopolitical outlook, further undermining stability. Of course the Pakistani dispute with India over Kashmir continues to threaten flare up, and the continuing civil war in Afghanistan and drug traffic originating from the "Golden Crescent" are also of great concern. Finally, the potential acquisition of ballistic missile and nuclear weapon technology by regional adversaries is another long-term threat to stability. This problem should be addressed through the Five Power Conference proposed by Pakistan. The key to countering these challenges is a strong, stable, and friendly Pakistan.

CENTCOM's Middle East area consists of the Gulf Cooperation Council (GCC) states: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates; as well as Egypt, Iran, Iraq, Jordan, and Yemen. Strategic oil resources and waterways make the area of paramount importance. Our forward presence

UNINTERRUPTED ACCESS TO ARABIAN GULF OIL IS VITAL operations and an ambitious combined exercise program with the GCC members and Egypt help maintain stability. The primary challenge to that stability is the resurgence of military power in Iraq and Iran. The invasion of Kuwait was a clear example of Iraqi adventurism, and Saddam remains defiant despite his crushing defeat. However, Iran's expansion in the political, military, and economic spheres is also of increased concern. Iran's recent attempt to coerce the UAE on Abu Musa Island is but one example of an increasingly outward directed and aggressive foreign policy. Iran and Iraq both also pursue unconventional capabilities in chemical, biological and nuclear technology.

1992 operations in this area centered around ensuring compliance with UN Security Council Resolutions concerning Iraq. Maritime Intercept Operations (MIO) were conducted throughout the year to enforce the embargo, and our naval forces were joined by those of our allies in that effort. In August, a no-fly zone was established below the 32nd parallel to prevent Iraqi combat air operations against the population there. However, in December Iraq began violating the no-fly zone with combat aircraft, resulting in U.S. pilots downing one MiG and repelling others. When Iraq further defied the UN by deploying surface-to-air missiles to sites in the zone and refusing to allow UN inspectors to fly their own aircraft to Baghdad, the U.S. responded with aircraft and cruise missile attacks against selected targets. Iraqi intransigence also led to the exercise deployment of ground forces to Kuwait and Patriot units to Kuwait and Bahrain to augment those already in the region. These exercises provided not only valuable training for U.S. and coalition forces on the ground, but also demonstrated our ability to deploy on short notice to protect our friends.

NON-MILITARY CHALLENGES REQUIRE FLEXIBILITY

The countries in or near the Horn of Africa are Djibouti, Ethiopia, Kenya, Somalia, and Sudan. The region borders the critical sea lines of communication through the Red Sea, via the Bab el Mandeb. Famine, drought, and disease are ravaging the region. Additionally, civil wars in most of these countries have exacerbated the problems. In the worst example, Somalia, anarchy and inter-clan fighting caused widespread starvation by 1992.

To help ameliorate the situation, in August Operation PROVIDE RELIEF began airlifting emergency food supplies to Kenya and Somalia. However, the warring factions and other armed bandits prevented sufficient food from reaching those in need. Therefore in December the President initiated

Operation RESTORE HOPE to provide the necessary security for a large-scale humanitarian campaign. A U.S.-led Unified Task Force (UNITAF) secured critical sea and air ports in Mogadishu and Kismayu, then cleared routes to distribution points in the interior of the country. By providing security at these distribution centers, the relief efforts have allowed aid to reach the population in need. Having achieved our objective, we are now preparing to turn over to the UN the long-term task of rebuilding Somalia. Some American forces will remain for logistic support and to provide a quick reaction force to deter challenges to UN authority.

To cope with the unique challenges of our area of responsibility, CENTCOM pursues a long-term and flexible, three-tiered strategy to deter aggression. As the first tier each country must bear primary responsibility for its own self-defense. Next, if aggression occurs, friendly regional states should provide a coalition defense. The U.S. and other allies from outside the region then would provide the third and final defensive tier, if necessary. Continued U.S. access to the region in peacetime is fundamental to this strategy. Access is maintained through forward presence, combined exercises, and security assistance.

Forward presence demonstrates the U.S. commitment, strengthens deterrence, and facilitates transition from peace to war. Because of their flexibility and offshore stationing, naval forces are the mainstay of our long-term forward presence. As a result of the Gulf War, presence ashore has seen a modest expansion in several locations as well. Some air forces remain in the region to deter aggression and to enforce UN resolutions under Operation SOUTHERN WATCH. Additional presence ashore, primarily prepositioned equipment and supplies, with associated military construction, is probable during the next few years.

Combined exercises between U.S. and regional forces provide a foundation for developing strong military-to-military relations and future coalitions. By supplementing our standing naval presence with short-term air and ground force exercise deployments to the region, we maintain access and raise the readiness standards of our friends and our own forces, while demonstrating U.S. capability and resolve. The experience gained in the combined exercise program enhances the interoperability that is essential to coalitions. Combined exercises are complemented by the Exercise Related Construction and Humanitarian and Civic Assistance programs which benefit not only U.S. forces but host nations as well. By taking advantage of all available opportunities, we increased our exercise activity in 1992 to five times the pre-Gulf War level.

COMBINED EXERCISES STRENGTHEN TIES

Security assistance furnishes the necessary equipment to countries to form a legitimate self-defense capability. The Foreign Military Sales Program bolsters U.S. credibility as a security partner, improves interoperability, and increases U.S. access and influence. The International Military Education and Training Program allows friendly military personnel to train in the United States, thereby improving professional skills while gaining an appreciation for the United States. By meeting the legitimate security assistance needs of our friends we improve their capability to deter adventurism or aggression by neighboring states, while strengthening the close ties between our countries.

If deterrence fails, CENTCOM is prepared to transition to contingency operations or a wartime footing. An extensive range of options is available, permitting flexible, measured responses to aggression. Our friends and allies have an important share of the responsibility and burden for maintaining the region's stability and security, and CENTCOM will rely heavily on their contributions.

Successful execution of our regional strategy depends on key capabilities. Adequate strategic sealift and airlift (e.g., additional roll-on/roll-off ships and the C-17) are essential to deploy forces across distances of over 7,000 miles. Military communications systems provide command and control capability in this harsh environment of vast distances and limited host-nation infrastructure. Commanders also require improved tactical reconnaissance and other intelligence architecture for timely and accurate information. In order to retain our technological edge and military superiority, an aggressive research and development program and the requisite fiscal support are essential.

In conclusion, the Central Region has continued to grow in importance, and is the overseas area where U.S. interests are most likely to be directly threatened. Maintaining stability in this volatile area is key to the free flow of oil and other commerce essential to the world economy. Through continued attention to the legitimate defense needs of our friends, and by maintaining appropriate military presence and access, we can promote regional security while protecting our own vital interests.

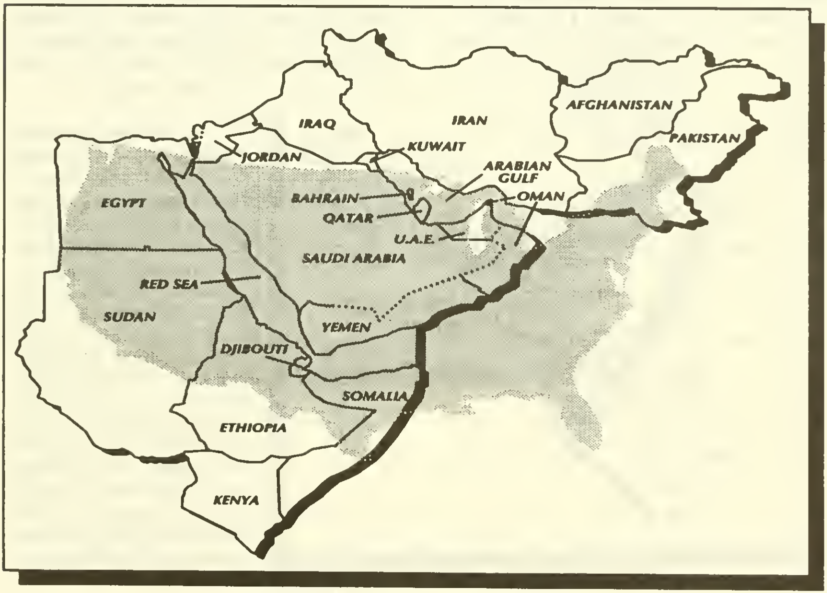
STRATEGIC LIFT REMAINS THE KEY

I. IMPORTANCE OF THE REGION

A. AREA OF RESPONSIBILITY (AOR) CHARACTERISTICS

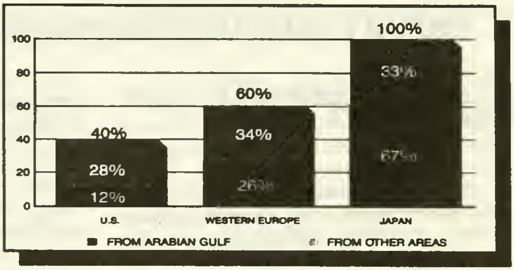
The U.S. Central Command's area of responsibility (AOR) is comprised of eighteen nations, plus the contiguous waters surrounding the Arabian Peninsula. This culturally diverse and volatile region stretches from Pakistan through the Arabian Gulf to the Horn of Africa. It contains vast strategic oil reserves and critical sea trading routes which make it crucial to today's interdependent global economy. It is characterized by limited rainfall, ongoing regional disputes, and recurring human disasters exacerbated by overpopulation and underdevelopment. The historic center of Muslim, Jewish, and Christian cultures, this part of the world has a legacy of armed conflict and military rivalries which continues today. This legacy has given rise to a proliferation of increasingly sophisticated modern weapons which further weakens already fragile stability.

The U.S. commitment to preserving the stability of this important region has been repeatedly demonstrated in the recent past. Though we have maintained a presence in the region since 1949, our level of activity has continuously grown over the last ten



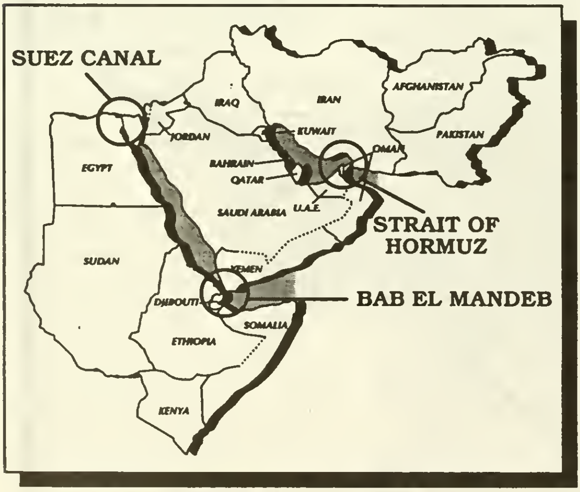
USCENTCOM AREA OF RESPONSIBILITY

years. The reflagging and protection of Kuwaiti tankers during the Iran-Iraq War and our historic leadership in the coalition victory in the Gulf War exemplified our firm commitment to the region. However, these successes did not complete the task. Today we are again engaged in military operations to keep Iraq in check and in compliance with UN resolutions. Concurrently, we are undertaking a massive humanitarian effort in Somalia, providing a secure environment that permits the delivery of desperately needed food to the starving population there.



1992 OIL REQUIREMENTS

The Middle East currently provides nearly half of all the oil used to power the global economy. Twelve percent of the oil used by the U.S. comes from this region, and most of our key allies are even more dependent. Oil from the Gulf fills over one quarter of Western Europe's needs, and more than two-thirds of Japan's. With sixty-six percent of the world's known oil reserves, the region will be the key oil-producing area in the foreseeable future. When U.S. reserves of economically recoverable oil are depleted next century, the Middle East will still contain over 100 years' supply. Further, the world is becoming more, rather than less, dependent on petroleum products, and any threat to free market access to the region is a threat to global stability.



VULNERABLE CHOKEPOINTS

The AOR also includes the Red Sea, the Arabian Gulf and the North Arabian Sea, with vulnerable chokepoints at the Bab el Mandeb, Suez Canal, and Strait of Hormuz. Not only oil but fifteen percent of all world commerce is routed through these strategic waterways. Additionally, these sea lines of communication are vital to U.S. military operations in the region. Deployment and sustainment of forces in the theater are dependent on surface transportation along these routes.

The area's vast oil reserves, and its strategic location and critical waterways, make regional stability vital to the U.S. and its allies. In the post-Cold War era, the Central Command must deter, and if necessary defeat, aggression in an area where U.S. vital interests remain threatened.

B. INTERESTS AND OBJECTIVES

The national interests outlined in the 1992 National Security Strategy and the objectives articulated in the 1992 National Military Strategy form the bases for the Central Command's regional objectives and supporting strategy. The key to protecting U.S. interests is to remain engaged and to coordinate military activities with U.S. regional economic, diplomatic, and cultural programs.

Our regional objectives are:

- To strengthen stability through regional defense cooperation, enhance self-defense capability of friendly countries, and promote regional military balance.
- To deter or defeat direct threats to the U.S. and our friends and allies by:
  - Protecting access to Middle East oil.
  - Preventing the spread of weapons of mass destruction.
  - Reducing the threat of terrorism.
  - Stemming the flow of illegal drugs.

These security objectives illustrate the CENTCOM commitment to the stability of this volatile region. The following section provides an analysis of the region, as well as its many challenges to stability.

II. REGIONAL ANALYSIS

A. GEOPOLITICAL ANALYSIS

SOUTH ASIA SUB-REGION: PAKISTAN-AFGHANISTAN

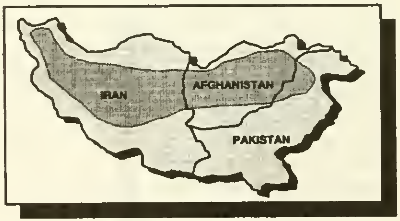
SOUTH ASIA SUB-REGION

OVERVIEW

Pakistan and Afghanistan, the easternmost countries of the AOR, are a part of an increasingly unstable South Asia. The end of the Cold War, the dismemberment of the Soviet Union, and increased ethnic and religious strife have contributed to this new dynamic. India, beset with severe domestic problems, and despite the demands of resisting serious internal threats, continues to seek a more influential role in South Asia. The new Central Asian Republics to the north add to the instability of the area while they struggle with defining their identities and relationships. However, as they develop as international actors they will represent new economic and diplomatic opportunities for countries throughout the area. Finally, Iran can also have a profound influence on neighboring Pakistan and Afghanistan as its government promotes the export of radical Islam abroad.

The dynamic Indo-Pak relationship remains key to stability in the sub-region. India and Pakistan have fought three wars since gaining their independence in 1947, and the potential for border confrontations to escalate to renewed conflict is high. However, over the past year Pakistan and India have made some progress in resolving their disputes through increased dialogue. This has created an atmosphere in which positive contributions can be made toward a solution of the dispute over Kashmir.

The pursuit of ballistic missile and nuclear weapons technology also is of paramount concern to the United States. In an attempt to limit weapon technology transfer to India and Pakistan we continue to support the proposed Five Power Conference. This proposal was to bring Pakistan, India, China, the U.S., and the former Soviet Union together to discuss curbing nuclear proliferation in South Asia. Also of concern, the Golden Crescent region of Pakistan and Afghanistan remains a major source of heroin for the world market, despite efforts at curtailment.



THE GOLDEN CRESCENT

PAKISTAN

Pakistan's proximity to Central Asia and shared borders with Iran, Afghanistan, China, and India make it a key regional actor. Its influence and access to top leaders in each of those countries make it important to U.S. interests. Concerned about its image abroad, Pakistan is determined to play a responsible international role. Already a major contributor to international relief efforts in Somalia, Pakistan has pledged additional forces to support UN operations in other locations such as Bosnia. In response to charges that it supports terrorism, Pakistan has given assurances that it has directed government agencies to discourage all forms of material support to militants inside Jammu-Kashmir. Pakistan continues to host Afghan refugees, supports the peaceful transition to a representative government in Afghanistan, and has extended millions of dollars in trade credits to the new Central Asian Republics. It is also working with the governments of several of the new Central Asian Republics, Afghanistan, China, and Iran to develop trade routes from Central Asia to warm-water ports on the Arabian Sea.

PAKISTANIS ON UN MISSION

The U.S.-Pakistani effort to contain and roll back Soviet expansion in Afghanistan will not be finished until political and economic stability is restored. Still home to 1.5 million Afghan refugees Pakistan, more than any other regional power, can still influence the ultimate course of events inside Afghanistan, through its direct access to key Afghan factional leaders.

The most important relationship in the sub-region is between Pakistan and India. It revolves around the unsettled status of Kashmir, an issue that has been the catalyst for two Indo-Pak wars. Until India and Pakistan come to an agreement on Kashmir, the potential for renewed conflict remains great, and escalation to nuclear conflict is a possibility.

Pakistan has pursued the nuclear option in reaction to India's overwhelming conventional might and demonstrated nuclear capability. Pakistan has publicly stated it cannot roll back its nuclear program while its fear of India goes unaddressed. However, regional arms control in conjunction with nonproliferation regimes may provide the necessary sense of security and the domestic political leverage Pakistan needs to back away from the nuclear option. Pakistan's proposal for a Five Power Conference to discuss regional nuclear issues is a step in that direction, deserving our fullest support, and Indian participation should be encouraged.

Our strong military-to-military relationship with Pakistan has developed over many years through International Military Education and Training (IMET) and other security assistance programs. Many of Pakistan's most senior officers attended U.S. courses and were influenced by our democratic traditions and American attitudes toward military rule. However, our efforts in this important program are limited by the Pressler Amendment which permits security assistance only under the condition that the President certifies that Pakistan does not possess a nuclear device. This has resulted in a hiatus in aid since 1990.

If conditions do not change, a generation of officers will likely rise to the top of the Pakistani military without the benefit of interaction with U.S. counterparts. Remnants of our military-to-military relationship now exist only through limited exercises and personal contacts. Every effort should be made to find solutions that will allow us to reestablish strong military ties with Pakistan.

AFGHANISTAN

Afghanistan's strategic location, bordering Iran to the west and the new emerging Central Asian Republics to the north, demands our attention as the Afghans struggle to attain political stability. The internal situation remains tenuous, and sporadic factional fighting continues, as major groups seek to fill the vacuum left by the withdrawal of the Soviets.

The interim government is in the final phase of the transition to representative rule as outlined by the Peshawar Accords of April 1992. Progress continues at a modest pace, but accommodation of the many diverse factions has thus far been elusive. The resulting political dissent has often led to violent response and instability.

Iran seeks to exploit the instability caused by these rivalries to ensure pro-Iranian and Shi'a factions secure a share of the power in the evolving government. Additionally, Iranian assistance funneled through Afghanistan to revolutionary Islamic factions in Tajikistan destabilizes the situation in the Central Asian Republics.

The U.S., UN, and other national and international relief agencies have made significant strides in meeting Afghanistan's humanitarian needs. Over one million refugees have been repatriated as the security situation improves, and progress continues toward rebuilding infrastructure and clearing heavily mined areas. Humanitarian aid, previously focused in Pakistan, is being shifted across the border into Afghanistan. This provides further incentive for refugees to return and helps to

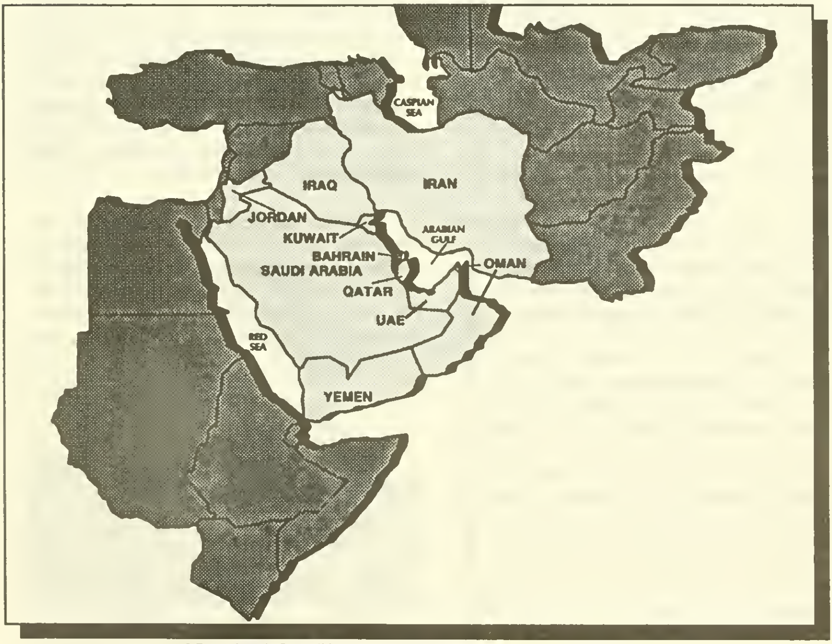
AFGHAN REFUGEES IN PAKISTAN

stabilize the social environment. With no quick solution in sight, the U.S. should continue to support these efforts and encourage ongoing support by other countries and international organizations. Our relations with Afghanistan should continue to grow at a moderate rate to build a solid foundation for social and economic recovery within a politically stable environment.

ARABIAN GULF/ARABIAN PENINSULA SUB-REGION: IRAN-IRAQ-BAHRAIN-KUWAIT-OMAN-QATAR-SAUDI ARABIA-UNITED ARAB EMIRATES-JORDAN-YEMEN

OVERVIEW

The countries of the Arabian Gulf/Arabian Peninsula Sub-Region can be broadly grouped into three categories. The first includes those states which still present credible threats to harmony - Iran and Iraq. The next is made up of our Gulf Cooperation Council (GCC) coalition partners - Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Finally, there are two



ARABIAN GULF/ARABIAN PENINSULA SUB-REGION countries - Jordan and Yemen - that are still plagued by their pro-Iraq stance during Operations DESERT SHIELD and DESERT STORM.

The security of the region is threatened by the current regimes in Iran and Iraq. Both are rebuilding military capabilities at an alarming rate. By promoting anti-GCC, anti-Middle East Peace Process, and anti-U.S. postures, these two countries undermine regional stability.

The countries of the GCC share common goals with the United States and have been active partners in maintaining regional security. The GCC states actively supported Operations DESERT SHIELD and DESERT STORM. These countries continue to make constructive contributions by supporting the enforcement of UN Security Council Resolutions (UNSCRs) and the Middle East peace initiative. The U.S. has signed bilateral defense cooperation and access agreements with Kuwait, Bahrain, Oman, and Qatar. We are in the process of concluding a defense agreement with the United Arab Emirates, and are continuing discussions on the subject with Saudi Arabia. In our ongoing efforts to improve regional collective capabilities, we are progressing toward multilateral exercises among GCC countries which can be expanded to include non-GCC allies.

Jordan and Yemen both continue to be troubled by their stance during the Gulf War. Nevertheless, Jordan is seeking to repair and improve relationships with the U.S. and the GCC states. The three-year-old Republic of Yemen lies at the southern end of the Arabian Peninsula, on the Bab el Mandeb waterway. It, too, is struggling to reestablish relationships with its Arab neighbors, maintain a fledgling central government's control over the entire republic, and continue its experiments with democratic processes and institutions.

IRAN

By virtue of geography, military strength, economic potential, demographics, and hegemonic aspirations, Iran poses the greatest long-term threat to peace and stability throughout the Central Region. Dominating the Strait of Hormuz and the northern shore of the Arabian Gulf, and bordering two of the former Soviet republics, Iran is strategically positioned to pursue its regional ambitions. Iran exports its opposition to U.S. objectives, while promoting Iranian hegemony throughout the region. It is pursuing economic, cultural, and political influence in the emerging former Soviet republics to edge out holdover Communist regimes and preclude a resurgence of Russian and Turkish influence. Although claiming to want improved relations with the GCC, Iran often antagonizes individual GCC members and challenges Islamic credentials of Arab leaders hosting U.S. or other Western forces. Iran also supports political violence and provides military assistance to radical Islamic groups, promoting unrest in countries such as Sudan and Lebanon.

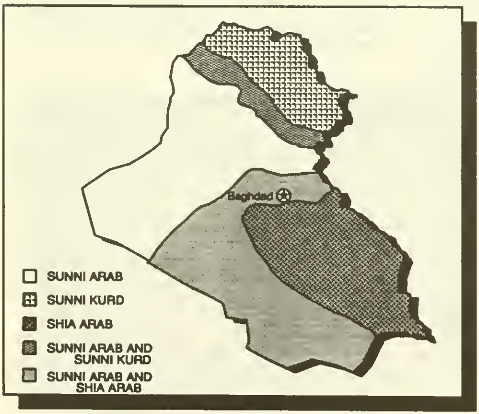
Despite an economy ravaged by an eight-year war with Iraq, Iran has engaged in a major military modernization program at the expense of domestic requirements. Recent military acquisitions include a diesel submarine and MiG-29s from Russia, and

IRAN'S ACQUISITIONS INCLUDE THE MiG-29

upgraded SCUDs from North Korea. As Iran upgrades its conventional weapons inventory and rebuilds its military forces, its chemical weapons provide mass destruction capability. In the longer term, civilian nuclear cooperation with several countries indicates that Iran may be embarked on a nuclear weapons program. Certainly, Iran has the potential to develop a viable nuclear weapons capability within the next decade. Concurrent with this arms buildup, Iran's posture in the Gulf region has become increasingly confrontational.

IRAQ

Iraq remains a serious threat to the security of the Gulf. Iraq views its Gulf neighbors, especially Saudi Arabia and Kuwait, with hostility and vengeance. It maintains an internal blockade against the Kurds in the north, and continues military operations against dissidents and insurgents in the south. In defiance of the UN, Iraq has failed to comply fully with UN cease-fire resolutions, systematically harassed UN and international relief workers, and refused to accept the UN Border Commission decision on the border with Kuwait.



ETHNIC AND RELIGIOUS GROUPS IN IRAQ

The Iraqi regime is composed of a ruthless elite, linked together by family ties, which has succeeded in suppressing all but regime-approved political activity. The Ba'athist party rule has left Iraqi society fragmented, without an opposition force strong enough to achieve change. Nevertheless, Iraq will continue to experience internal instability because of Ba'athist oppression.

The ethnic and religious friction in Iraq has spilled over into neighboring countries. In the north, the insurgency by the Workers' Party of Kurdistan (PKK) along the Turkish border exacerbated an already volatile situation and provoked a major cross-border military operation by the Turks into Iraq. Oppression in the south has led to continued insurgency, supported in part by Iran, and to establishment of a no-fly zone.

BAHRAIN

Bahrain has earned a prominent commercial role in the Gulf as a regional financial and service center. Looking to the future, Bahrain has pursued a policy of economic diversification in manufacturing, finance, and service fields to reduce dependence on revenues from limited and diminishing oil resources.

One of the oldest and strongest supporters of the U.S. in the region, Bahrain has been a consistent friend and ally. It has been the de facto homeport for Commander Middle East Force (CMEF) since 1949 and home of the Naval Administrative Support Unit (ASU) since 1972. Other illustrations of the mature

U.S.-Bahraini relationship include the establishment of the U.S. Office of Military Cooperation (USOMC) in 1986, the regular Military Consultative Committee (MCC) meetings with the U.S., and the signing of a Defense Cooperation Agreement (DCA) a year ago.

Bahrain relies heavily on the U.S. for security assistance and military training. It is a Foreign Military Sales (FMS) cash customer and purchases 95% of its weapons, training, and spare parts from the United States. As part of a robust combined exercise program, the Bahrainis have favorably considered U.S. proposals for trilateral exercises.

KUWAIT INTENDS TO PURCHASE THE M1A2

KUWAIT

Kuwait has made significant progress in recovering from the Iraqi invasion. Specifically, oil production is nearing prewar levels and is expected to be fully restored by mid-1993. However, the country continues to feel the effects of the occupation in many areas including still missing POWs and military equipment. Moreover, the UN Border Commission results will likely foment intense, long-term, Iraqi hostility, since the commission recognized Kuwaiti sovereignty over a small amount of territory claimed by Iraq.

Kuwait is actively pursuing efforts to guarantee its national security. With the help of a joint U.S.-Kuwaiti Defense Review, Kuwait is rebuilding its military. It is participating fully in a combined exercise program with the U.S., and in international coalition relief operations in Somalia. It is expanding self-defense capabilities through the addition of modern U.S. weapons systems such as the F/A-18 aircraft and the M1A2 tank. Kuwait is further bolstering its defense posture by signing a security agreement with the United States.

Kuwait fulfilled a wartime pledge by holding parliamentary elections in October 1992. , This watershed event was characterized by open debate, vigorous campaigning, and fair balloting. Moreover, the Amir appointed six opposition-backed parliamentarians to the Kuwaiti cabinet, significantly eased press censorship, and promised to broaden Kuwaiti suffrage. Although elections are unlikely to end political dissension, Kuwait has taken steps toward an increasingly participatory government.

F/A-18s WILL IMPROVE KUWAITI CAPABILITIES

OMAN

Oman's location on the Strait of Hormuz, the Gulf of Oman, and the Arabian Sea, commands the southern approaches and entrance to the Arabian Gulf. This strategic position makes Oman a key to maintaining the free flow of oil and other trade in the Gulf region.

Long a supporter of U.S. presence in the region, Oman was the first of the Gulf states to sign access agreements with the U.S., which have since been renewed. Oman has long provided valuable support to U.S. maritime and air operations in the Gulf, enhancing our ability to respond to contingencies that may arise. Most recently, Oman has offered the use of its airbases for operations in support of Somalia relief efforts.

QATAR

Qatar is one of the smallest, yet richest, of the Gulf States, with a per capita income among the highest in the world. Although its oil reserves are diminishing, Qatar's economic future remains bright because of the vast North Dome natural gas field now under development off its northern coast.

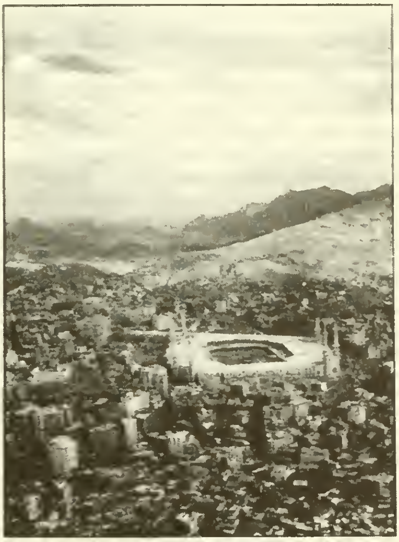
There has been a significant improvement in the U.S.-Qatari military relationship since the beginning of Operation DESERT STORM. In 1991, the U.S. Military Liaison Office opened in Doha, and in June 1992 the U.S. and Qatar signed a Defense Cooperation Agreement (DCA). Additionally, we have a viable military bilateral exercise program with Qatar, which is continuing to grow.

Continued progress toward greater cooperation was delayed as a result of the Saudi/Qatari border dispute. Now that the dispute is settled, we look forward to renewed efforts to improve our relationship.

SAUDI ARABIA

The Kingdom of Saudi Arabia is an old and constant friend of the U.S., and the largest and most influential nation on the Arabian Peninsula. It contains Islam's two most holy sites and the world's largest petroleum producing infrastructure. Because of their strategic location between the Arabian Gulf and the Red Sea, the Saudis are already key to the security of the region, and they are assuming an expanded role in world affairs.

Saudi Arabia's moderate political orientation, foreign aid programs, and efforts to mediate regional disputes contribute



HOLY CITY OF MECCA,
BIRTHPLACE OF MOHAMMED

substantially to maintaining peace and stability in the Middle East. Looking outward, Saudi Arabia is now establishing diplomatic relations with Central Asian Republics of the former Soviet Union, and is cautiously moving toward diplomatic relations with the newly democratic states of Eastern Europe. Furthermore, Saudi financial and military contributions have been integral to UN relief efforts in Somalia.

The U.S. has enjoyed a close military-to-military relationship with Saudi Arabia since WWII. Providing the Saudis with a sound defensive capability to ensure their security is clearly in the U.S. national interest. Our ties include the largest Foreign Military Sales program in the world, financed entirely by Saudi Arabia. The Saudis want the U.S. to be a major military partner, and the Kingdom was pleased at the announcement of the pending F-15 aircraft sale. This is in line with Saudi intentions to modernize their armed forces with U.S. support if possible. By acting favorably to provide for the legitimate defense requirements of Saudi Arabia, we also promote the necessary interoperability to meet our mutual security needs in the region. In order to solidify our military relations we are continuing our discussions on enhancing our security arrangements.

F-15s WILL IMPROVE SAUDI CAPABILITIES

UNITED ARAB EMIRATES

The United Arab Emirates (UAE) is an oil-rich federation of seven sheikdoms bordering the Arabian Gulf and the Gulf of Oman. Its excellent seaports, such as Abu Dhabi and Dubai, are the sites of frequent U.S. Navy ship visits in the Arabian Gulf. Fujairah on the Gulf of Oman provides a unique contribution by allowing logistic support to reach destinations on the Arabian Gulf by modern highway rather than transiting the Strait of Hormuz.

The UAE is a key supporter of U.S. actions in the region, with a relationship that matured significantly during the Gulf War. Its appreciation for U.S. war efforts has subsequently translated into closer military ties and a recognition of the need for U.S. presence as a deterrent to aggression. This has resulted in closer cooperative efforts and progress toward a Defense Cooperation Agreement. Most recently, the UAE has also contributed troops in support of UN relief efforts in Somalia.

In response to potential external threats such as renewed Iranian attempts at intimidation, the UAE is seeking to improve its defensive capabilities, while maintaining GCC solidarity against aggression. Continued support by the U.S. in meeting legitimate defense needs can improve the UAE's indigenous capability while demonstrating that we are a credible and reliable partner.

JORDAN

A moderate, Western-oriented Jordan is key to a favorable resolution of the Palestinian question and successful completion of the

JORDANIAN IMET

Middle East Peace Process. Jordan's post-DESERT STORM relations with the U.S. and other Western states have improved as it increased support for UN sanctions against Iraq. Jordan's King Hussein has, throughout his reign, been influential in the political affairs of the region. Unfortunately, Jordan's relations with its traditional supporters in the Gulf remain strained.

Based on Jordan's postwar actions, limited IMET and Foreign Military Financing (FMF) funds have been restored. Moreover, other U.S.-Jordanian military-to-military programs are being renewed, including selected combined exercises. Our relationship will continue to improve with Jordan's support for the Middle East Peace Process, UNSCRs concerning Iraq, and UN relief efforts in Somalia.

YEMEN

Though not a major power in the region, Yemen occupies a strategic position on the northern side of the Bab el Mandeb waterway which connects the Red Sea and the Gulf of Aden. The Yemen Arab Republic and People's Democratic Republic of Yemen united to form the Republic of Yemen on 22 May 1990. In November 1992, Yemen ended a 30-month transition period during which it drafted unification legislation for holding parliamentary elections, now scheduled for April 1993.

Since being isolated by its Gulf neighbors for supporting Iraq during the Gulf War, the government of Yemen has made repeated efforts to improve relations. It recently negotiated a border agreement with Oman, and Saudi-Yemeni representatives are meeting to discuss their boundary dispute. Yemen has also contributed to international relief operations in Somalia by providing an air base for logistic support of the U.S. airlift. Despite these developments, Yemeni expatriate workers, expelled during the Gulf War, are not expected to regain their privileged residency status in the Gulf states in the near term. Additionally, the Yemeni government will not be able to expand its commerce in the region until it can normalize relations with its neighbors on the Arabian Peninsula.

Yemen's long-term economic prospects have improved somewhat with the development of several oil fields. Nevertheless, the economy is still unable to support an adequate military infrastructure. Consequently, Yemen has relied on foreign financial aid, equipment, and advisory assistance to develop its armed forces. Most of the country's military equipment was provided by the former Soviet Union and is no longer readily supportable. Termination of U.S. and Saudi security assistance programs during the Gulf War ended military-to-military relationships.

RED SEA/HORN OF AFRICA SUB-REGION: EGYPT-SUDAN-ETHIOPIA-DJIBOUTI-KENYA-SOMALIA

RED SEA/HORN OF AFRICA SUB-REGION

OVERVIEW

Egypt and the Horn of Africa lie to the west and south of the Red Sea -- the critical commercial shipping avenue between the Mediterranean Sea and the Indian Ocean. The Red Sea and Suez Canal provide passage to more than 10 percent of the world's seaborne commerce. Additionally, these waterways serve as a vital sea line of communication for U.S. and allied military forces meeting commitments on and around the Arabian Peninsula.

SEABORNE COMMERCE CROSSROAD

Egypt continues to play a fundamental role in regional peace and stability. It remains a steadfast supporter of the Middle East Peace talks and peaceful resolution of the Arab-Israeli issue. Egypt has proven to be a strong and reliable partner, both in peace and in war. Continued U.S. support and a strong military-to-military relationship remain essential to our regional strategy.

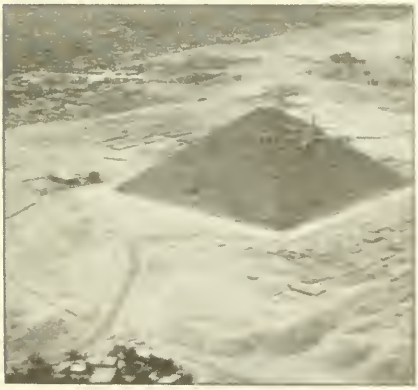
The nations of the Horn of Africa remain important to U.S. strategic interests by virtue of their location along the Red Sea and its approaches. Access to ports, airfields, and logistical staging areas here give us the strategic depth needed to ensure the free flow of shipping through the Red Sea, and to respond to contingencies throughout the region. U.S. efforts in nationbuilding, humanitarian assistance, and military professionalization can promote the evolution of stable, democratic governments in the Horn. They can also help put an end to the cycles of internal strife, political and economic chaos, and famine which have traditionally plagued the area.

EGYPT

Egypt, the most populous Arab state, remains a leader in the politics of the Arab world and has significant influence in African affairs. Egyptian military power and political influence serve to support regional states potentially threatened by radical or militant neighbors. The Arab League is based in Cairo and chaired by Egypt. An Egyptian recently headed the Organization of African Unity and another, Dr. Boutros Boutros-Ghali, now serves as the Secretary General of the United Nations. President Mubarak's diplomatic skills and relationships in the Arab world have been instrumental in the Gulf War Coalition, the Middle East peace process, and the mediation of the Saudi/Qatari border dispute. A strong proponent of regional stability, Egypt has contributed forces to Somalia relief and continues to press for nuclear nonproliferation.

Egypt remains committed to maintaining peace with Israel and continues to offer its services as a bridge between Israel and the Arab world. President Mubarak has been instrumental in the Arab-Israeli peace talks that began in October 1991, and he can be expected to continue to play a vital role in the peace process.

Despite Egypt's positive influence within the region, its mounting demographic and economic problems are causing it increased internal difficulties. Population growth rates remain extremely high and place an enormous strain on limited resources. Continuing structural economic problems combined with the international recession compound the problem. Egypt's commitment to reverse these trends is clearly visible in recent reforms. However, until these reforms are successful, Egypt's domestic problems create an environment conducive to the growth of radical and anti-democratic opposition groups which are attempting to discredit the government both domestically and internationally.



TRAINING IN EGYPT

Egypt remains vitally interested in the continued free flow of the Nile River, the principal source of its fresh water and livelihood. Since instability in countries to the south could threaten the security of the Nile headwaters, Egypt actively promotes initiatives to reduce tensions among her southern neighbors. However, the water problem coupled with a lingering boundary dispute and fear that Khartoum supports subversives in Egypt, could make the Egyptian-Sudanese border a potential flash point in the region.

Military relations between U.S. and Egyptian Forces continue to benefit both countries. Our combined exercise program with Egypt is one of the largest in the region. Exercises and IMET provide excellent training and enhance interoperability between our forces. Egyptian cooperation is also evident in their support of operations in the Red Sea and contribution of troops to UN operations in Somalia.

Support to the Egyptian military is provided by United States Foreign Military Financing, presently committed through 1995 based on current annual funding levels. Projects using these funds allow Egypt to replace its aging Soviet equipment and support U.S. strategy through force modernization and interoperability. It is crucial that we continue this support to Egypt, along with our other economic and military programs, to further U.S. interests and enhance regional stability and security.

SUDAN

Sudan, the largest country in Africa, is located on the western shore of the Red Sea. Following years of internal conflict, famine, and fiscal mismanagement, Sudan continues to be burdened by a devastated economy and besieged by separatist insurgent groups. Sudan remains of key interest to Egypt as it has the potential to control the flow of the Nile, Egypt's only source of fresh water.

Sudan is becoming politically and economically isolated because of its government's radical nature and warming relations with states such as Iraq and Iran. Sudan supported Iraq during the Gulf War and this support continues. Although Iranian support to Sudan has been largely economic and cultural, the relationship expanded in 1991 when Iran began providing military hardware and advisers.

A state of civil war continues in Sudan, with little likelihood of resolution in the near term. Key underlying causes are ethnic and religious differences along with continuing economic turmoil. A highly volatile point of contention is the effort by Sudan's fundamentalist government to impose Sharia law on its non-Muslim population. The current Sudanese Government has been unable to end the civil war primarily because of its unwillingness to compromise on religious issues. Consequently, the non-Muslim population in southern Sudan increasingly views secession as its only viable option.

Congressional sanctions against Sudan currently limit United States assistance to humanitarian relief. These sanctions, coupled with Sudan's support for Iraq's invasion of Kuwait, led to the closing of the U.S. Office of Military Cooperation in December 1990. At present, there is no U.S. military relationship with Sudan, and none is anticipated unless there are major political changes within the country.

ETHIOPIA

Ethiopia shares borders with every other country in the Horn of Africa and historically plays a key role in the region. It occupies a strategic location on the southern side of the Red Sea and along the approaches to the Bab el Mandeb. Because of its location, large population, and economic potential, a stable and friendly Ethiopia would significantly enhance our goal of regional stability.

A coalition of ethnic groups toppled the Mengistu Government in 1991 and installed the Transitional Government of Ethiopia. The new government, headed by President Meles Zenawi, continues working for democratic reform and has already expressed interest in expanding relations with the U.S. and other western countries. Ethiopia has played an important role in the UN efforts in Somalia by providing use of facilities and a site for a reconciliation meeting of warring factions. The Meles Government has called for free elections and a referendum on Eritrean independence within the next two years.

Given these positive changes, Ethiopia still faces a shattered economy and

ERITREANS SEEK TO SECEDE

continued ethnic conflict in many areas of the country. In spite of these difficulties, the government is making tangible efforts toward improving the general welfare of the populace. To support Ethiopian political stability, we should enhance our humanitarian assistance and nation-building initiatives. While solutions to economic and political problems are still in the future, the outlook for Ethiopia is much improved.

DJIBOUTI

Djibouti, a former French colony, is strategically situated on the western shore of the Bab el Mandeb, which joins the Gulf of Aden and the Red Sea. In addition to its location, its pro-Western orientation and relatively modern facilities make Djibouti important to U.S. interests. Seaport and airfield facilities provide valuable support for maritime intercept operations and other U.S. naval activities in the region, and Djibouti has offered assistance in the UN relief effort in neighboring Somalia.

Despite a long period of stability following independence, old clan rivalries have again flared up, and the country is currently facing domestic strife that threatens its internal security. Differences in views over political power sharing between the Issa and Afar tribes has led to fighting across northern Djibouti that has extended into Ethiopia and Somalia. This has increased friction between Djibouti and its neighbors. Additionally, a large influx of refugees has increased pressure on the government and strained economic resources.

Djibouti remains heavily dependent on foreign aid and assistance due to a dearth of natural resources and a service sector economy with limited expansion potential. Foreign assistance has traditionally been, and continues to be, provided largely by the French. Continued U.S. support will contribute to internal stability and help ensure the future access required for the protection of the Bab el Mandeb.

KENYA

Kenya is an economic leader in East Africa, having a relatively modern infrastructure and economy. Kenya provides access to air and sea ports, as well as storage facilities on the East African coast. This access was instrumental to U.S. humanitarian efforts in Somalia under Operations PROVIDE RELIEF and RESTORE HOPE, highlighting the importance of our relationship with Kenya.

The Government of Kenya is interested in maintaining good relations with the United States, despite differences we have had in the past over human rights and the implementation of certain democratic reforms. President Moi has responded to international concerns about political repression and has changed Kenya's constitution to allow for a multiparty political system. New national democratic elections were held in December 1992 and international observers monitored the process. These elections demonstrate the Kenyans' desire to pursue democracy and pave the way for enhanced relations.

Because of our concerns about human rights, Congress froze any additional Foreign Military Financing to Kenya, but allowed IMET Program funding to continue. The frozen funds will not be released until the President certifies that human rights abuses have ended.

Despite the diplomatic tensions caused by these actions, military-to-military relations between Kenya and the U.S. remain very good. The Kenyan military is an influential institution and its participation in the IMET

Program strengthens our relationship with senior Kenyan defense officials. The Kenyan military also continues to show strong interest in a combined exercise program. Planned future exercise related construction projects will assist Kenya in upgrading its facilities, and U.S. ship visits to Mombasa will provide needed access and presence.

SOMALIA

Somalia is situated on the actual "horn" of Africa, with extensive coastlines on both the Gulf of Aden and the Indian Ocean. It shares borders with Ethiopia, Kenya, and Djibouti, each of which has a significant ethnic Somali population.

Because of Somalia's geographic location, it was viewed in the Cold War context as having significant strategic importance. As a result, both the former Soviet Union and the United States each alternately served as key supporters and benefactors. With the end of the Cold War and the increasing repressiveness of the Siad Barre regime, foreign interest and influence in Somalia diminished while internal dissent and rebellion grew. In 1991, the regime collapsed and Barre was forced to flee the country. Efforts by victorious rebel movements to fill the power vacuum soon led to inter- and intra-clan clashes and renewed civil war. The result was the complete collapse of all government institutions followed by political and economic anarchy and widespread starvation.

The U.S. military became involved in August 1992, when President Bush sent forces to begin an airlift of food supplies to starving Somalis. Operation PROVIDE RELIEF greatly increased the flow of food to famine stricken areas of Somalia and Kenya. However, lack of security in Somalia precluded much of the food from reaching those in need. In December, additional U.S. forces entered Somalia under UNSC Resolution 794, which authorized the use of troops to ensure the safety and security of relief efforts. Operation RESTORE HOPE began on 9 December and, with the help of over 30 contributing nations, quickly achieved its initial objectives. By late January, the U.S.-led coalition had created conditions which had virtually ended starvation and were sufficiently stable to begin turning responsibility for Somalia over to the United Nations.

OVER A MILLION SOMALIS FACED DEATH

Although the humanitarian situation in Somalia is much improved, political and economic conditions remain difficult. Real progress will require the installation of a legitimate central government able to carry out a full range of domestic functions beginning with law enforcement. The process of transition from anarchy to effective government will require time, a stable environment, and a sizable peace-enforcing organization (UNOSOM II) to carry out the UN mandate.

CLAN CONFLICT PREVENTS FORMATION OF A VIABLE GOVERNMENT

B. CHALLENGES TO STABILITY

INTERNAL TO THE REGION

Several challenges to regional stability continue to beset the theater. Saddam Hussein's successful program to rebuild his ground and air forces while actively repressing an insurgency in southeastern Iraq presents a serious threat to U.S. interests in the region. Iran is rearming and upgrading its military capability, with a focus on weapons of mass destruction and the means to deliver them, further exacerbating the regional security problem. Somalia's continued dissolution into anarchy, a low level insurgency in Djibouti, and ongoing fighting in southern Sudan threaten stability in the volatile Horn of Africa, where human suffering has already reached catastrophic proportions. Territorial and border disputes continue to provide potential flashpoints that could draw heavily armed nations into conflict on short notice. Other factors such as water shortages, oil production imbalances, population growth, and the proliferation of weapons of mass destruction also potentially threaten the region.

SADDAM HUSSEIN'S IRAQ CONTINUES TO THREATEN REGIONAL STABILITY

IRAQ

Since the conclusion of DESERT STORM, Baghdad has made steady progress rebuilding its military forces and infrastructure. Currently, Iraq has over thirty divisions and approximately 400,000 personnel and can field thousands of main battle tanks and artillery pieces. This is considerably less than the 1.2 million men under arms during the Gulf War. By regional standards the current force is well trained, equipped, and organized. Most units are led by officers with combat experience, and Iraqi ground commanders have demonstrated the ability to conduct multi-division level operations.

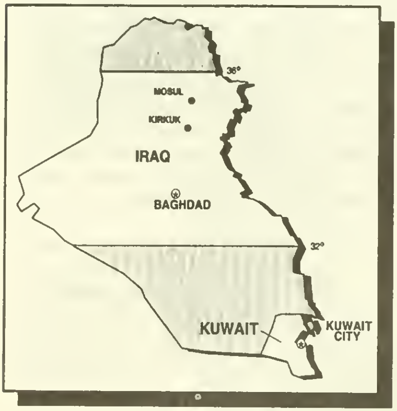
Much of the Iraqi military-industrial infrastructure has been rebuilt. Iraq now has the capability to manufacture ammunition, infantry weapons, mortars, and artillery. Iraqi factories can also produce most spare parts for some weapon systems and vehicles. While Iraq has returned the bulk of the military equipment it seized after the invasion of Kuwait, it has incorporated some of the more sophisticated Western weapons systems into its arsenal.

In addition to the Iraqi military infrastructure, Baghdad has almost rebuilt the Iraqi transportation system. Iraq can now move military units from one section of the country to another. Clearly, Iraq has the military capability to conduct short-term, corps-level offensive operations against Kuwait and Saudi Arabia. To counter such an Iraqi attack effectively would require a coalition effort.

Coupled with this renaissance of conventional capability is the sobering evidence unearthed by UN inspections in Iraq. Of particular concern is Iraq's nuclear weapon development program. Fifty-three inspections have been carried out in Iraq under the direction of the United Nations Special Commission and the International Atomic Energy Agency. Through these inspections, UN experts have uncovered portions of a vast national nuclear program - an effort designed to ensure Iraqi dominance over the region. Inspectors determined Baghdad was one to two years from developing a nuclear weapon, having committed 18,000 people and over $20 billion toward enrichment and weaponization programs.

UN INSPECTORS IN IRAQ

The inspection teams also uncovered huge stockpiles of Iraqi chemical weapons. The ongoing destruction of these chemical weapon stockpiles, which include over 130,000 munitions and 4,000 tons of agents and precursors, will continue until at least late 1993. Biological weapons experts assess that Iraq was pursuing research on offensive biological warfare, although no evidence of the production of biological weapons has



NO FLY ZONES OVER IRAQ

been uncovered. Ballistic missile inspectors have determined Iraq could indigenously produce most missile and launcher components. Some aspects of Baghdad's widespread weapons of mass destruction program have almost certainly gone undetected. Questions remain regarding nuclear materials enrichment methods, weapons procurement data, the existence of biological weapons, advanced chemical munitions, ballistic missiles, and mobile launchers.

Iraq has challenged enforcement of UN resolutions regarding weapons of mass destruction and those affecting its territorial integrity and economy. Harassment of UN inspection teams continues, and Iraqi claims of sovereignty over Kuwait have been reiterated. Hence, the newly demarcated border with Kuwait may well be a future flashpoint.

Over the past year, Baghdad has had varying degrees of success in combating insurgency in the southeast. Before the start of Operation SOUTHERN WATCH, Iraq had launched multi-division level operations with aviation support, and was apparently very successful in curbing insurgent activity. With the implementation of a no-fly zone, however, the insurgents enjoyed a period of success against Iraqi forces. Baghdad responded by committing three regular army heavy divisions to the effort. This action, coupled with plans by Saddam to buy off certain tribal leaders and the apparent inability of insurgent forces to sustain operations, has reduced the threat the insurgency poses to Baghdad. Iraq will continue its current policies in the southeast in an attempt to wait for Coalition concern to wane.

In the days following DESERT STORM, as Saddam and his supporters fought to hold Iraq together, the Kurds of northern Iraq proved a viable military threat to Baghdad. However, the Iraqi military, even in its weakened condition, was able to contain and push back Kurdish fighters into the economically unimportant mountains near the borders with Turkey and Iran. Currently, Baghdad maintains control over the important commercial centers of Mosul and Kirkuk, as well as the Kirkuk oil fields. It is apparent that Saddam has decided to wait

KURDISH REFUGEE CAMP OF YEKMEL

SADDAM HUSSEIN REMAINS IN POWER

out Western resolve and to contain and blockade the Kurds instead of confronting them militarily. In the long-term, Saddam will move to reassert the central government's control over the Kurds, but only after he determines that the Kurdish situation is no longer important to the West.

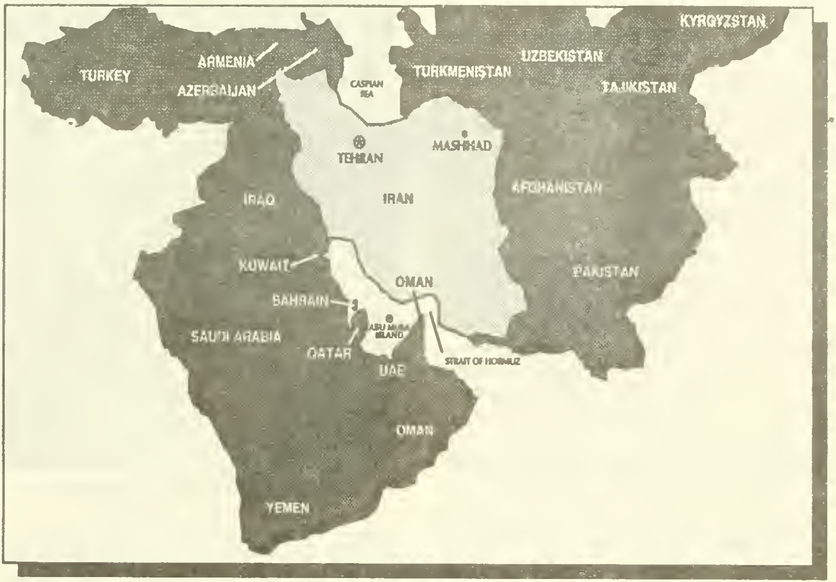
Saddam has shown a remarkable ability to survive attempts at removing him from power. Immediately after the Gulf War, Saddam was able to maintain his hold on power, primarily through the support of large numbers of personnel in key governmental and military positions who owed their jobs to his patronage. It was at this time, when both the Kurds and Shia were in major revolt and the Iraqi military was in disarray, that Saddam was most vulnerable. Since then, the situation in both northern and southeastern Iraq has stabilized. The Iraqi military has made progress in rebuilding, and even more effective security measures have been put in place to ensure Saddam's safety. Last summer's failed coup attempt showed how competent these security forces are. Given that the internal opposition could not remove Saddam, even when he was at his weakest, it is doubtful that the many weak and factionalized opposition groups currently in existence will have any success in ousting him.

Over the next six to twelve months, we expect little change in Baghdad's current policies or actions against the Iraqi people or the international community. Saddam will retain his hold on power and the Iraqi military will remain a major threat to Kuwait and other regional states friendly to the West. The primary catalyst for major change in Iraq remains the departure from power of Saddam.

IRAN

Despite Iraq's recovery, Iran may in the long-term become the greatest single threat to peace and stability in the Central Region. Using revenues from the expanding energy

IRAN OBTAINS KILO SUBMARINE



IRAN MAY POSE THE GREATEST THREAT TO REGIONAL STABILITY

sector of its economy, Iran is modernizing its armed forces with newer and more capable equipment, focusing on weapons of mass destruction and related delivery means. Also of great concern is Iran's recent acquisition of more advanced fighter aircraft and a diesel attack submarine from Russia. Because of this ongoing buildup, Iran will continue to pose an ever increasing threat to U.S. interests in the region as it enhances its ability to restrict the flow of oil through the Strait of Hormuz.

President Rafsanjani will continue efforts to improve Iran's standing with the world community. Iran is likely to expand relations with Pakistan with the goal of obtaining advanced technology and vital military training assistance. It will also continue its attempts to expand ties with Afghanistan through increased aid and diplomatic contact. To the north, Iran will seek to improve relations with the Central Asian Republics, to include not only diplomatic ties but also economic cooperation. By providing petroleum processing and distribution for Turkmenistan and Kazakhstan, Iran would enhance its influence in that area. Tehran will also focus on religious and cultural similarities. In Africa, Iran will step up attempts to gain influence by backing Islamic activist groups and promoting anti-Western sentiment, continuing to be the strongest supporter of militants in the region. This will be particularly true in the Sudan, where Iran is establishing a foothold in order to support extremist Islamic movements in East Africa.

Relations with the Gulf Cooperation Council (GCC) countries suffered a setback in 1992 because of a dispute with the UAE over Abu Musa Island. In late March, Iran expelled a number of expatriate workers from the UAE side of Abu Musa, allegedly for violating the 1971 memorandum of understanding (MOU). Iran initially resisted efforts by the UAE to settle the issue, but eventually backed down and allowed non-UAE nationals back on the island in April. Iran again escalated tensions in August when they refused to let a UAE boat with expatriates aboard dock at Abu Musa. The UAE surprised Iran by abandoning its traditional quiet diplomacy and adopting a hardline stance over the issue. During attempts to negotiate, the UAE also challenged Iran's claim of sovereignty over the Tunb Islands. Iran refused to negotiate unless the issue of the Tunbs was dropped. Nonetheless, the UAE achieved diplomatic success when the GCC and the Arab League, as well as Egypt and Syria, announced support for the UAE on the sovereignty issue and denounced Iranian actions on Abu Musa. The UAE is determined to ensure that Iran does not succeed in its efforts to gain complete control over Abu Musa, fearing that it might lead to further instances of Iranian aggression in the Gulf.

Internally, living conditions for most Iranians remain poor. The rapidly growing population is straining the economy as demands for goods, services, and jobs increase. Iranians are concerned about steadily rising prices and general worsening of economic conditions. Dissatisfaction over current conditions led to numerous riots throughout the country in the summer and fall of 1992.

Although riots in the major population centers of Tehran and Mashhad were no doubt worrisome to Rafsanjani, the regime is probably reasonably secure for the near term. Parliamentary elections held last spring purged the Majlis of virtually all of Rafsanjani and Khamenei's critics and pushed the radicals to the periphery of Iranian policymaking. This will allow Rafsanjani to continue his external pursuits of regional dominance, and will ensure that Iran's future impact on the region will be considerable.

IRANIAN PRESIDENT RAFSANJANI

Iran continues to aggressively pursue expanded military capability as a deterrent to its potential foes. Iran's growing civilian nuclear infrastructure will enhance military programs by providing scientists and technicians with experience in reactor physics, uranium enrichment, and fuel reprocessing technology. Additionally, Iran has continued its offensive chemical warfare program and is capable of producing both nerve and blister agents. Research into production of more stable, advanced nerve agents is ongoing. Tehran is also pursuing biological weapons and may already possess limited quantities of some toxins and infectious microbes.

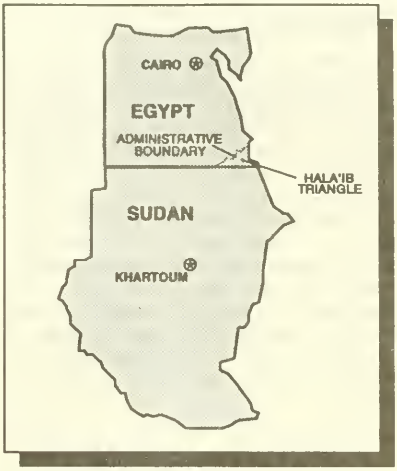
Iran will continue to view the United States as its chief antagonist and attempt to spread anti-Western sentiment in the region. It may also continue to use terrorism and subversion to support Islamic extremists and punish its opponents abroad.

WEAPONS OF MASS DESTRUCTION

The acquisition of weapons of mass destruction is not limited to Iraq and Iran. Pakistan, by its own admission, has the necessary components to assemble several crude nuclear weapons for strategic deterrence against India. Moreover, the nuclear capability of some regional powers has led others to work on acquiring or improving chemical and/or biological weapons' capabilities. The presence of any of these weapons is inherently destabilizing. Most disturbing has been the willingness of several supplier nations to offer key chemical precursors and agent production technology for sale. Developing nations will continue to pursue chemical and biological weapons to enhance their ability to influence political and economic events in the region. These capabilities are often much cheaper and easier to obtain than nuclear technology.

BORDER DISPUTES

Several border disputes in the region remain unresolved. The undefined boundary between Yemen and Saudi Arabia will remain a source of tension which will be intensified by the recent discovery and disputed ownership of oil in the border area. In Africa, the Shalatayn-Hala'ib Triangle remains a source of tension between Sudan and Egypt. A 1902 agreement guaranteed Egyptian sovereignty while allowing Sudan to administer the area. However, recent, increased Sudanese presence, building construction, and granting of oil concessions in the Triangle and in adjoining coastal waters are all perceived by Egypt as violations of the agreement and threats to its sovereignty. A dialogue to resolve the situation is underway, and Egypt has taken steps to demonstrate its sovereignty.



THE SHALATAYN-HALA'IB TRIANGLE

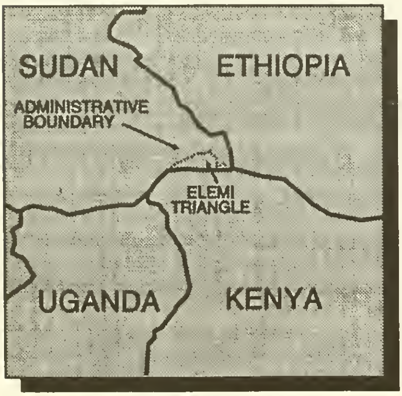
Another Sudanese dispute is with Kenya over ownership of the Elemi Triangle, an area reported to be rich in gold. A boundary defined by the Uganda Order in Council of 1914 gave Sudan sovereignty over this area which includes the traditional grazing grounds of the Turkana, a Kenyan ethnic group. In 1931, with Sudan's approval, the Kenyans began administering this area and maintaining police posts as far as 30 km north of the official border. In recent years, however, the Sudanese have officially demanded that Kenya return the Triangle, and ownership remains contested.

CIVIL WARS

Civil wars continue to rage in several countries and pose a formidable threat to human life, national economies, and regional stability. In the Sudan, the radical National Islamic Front (NIF)-dominated government continues to pursue its military campaign against the Sudanese People's Liberation Army (SPLA) in the south. This campaign could be decisive and force the SPLA to revert to small, scattered guerrilla efforts. Even if the government can weaken the insurgency, it will still have to make dramatic improvements in the economy to survive. Presently, the chances for a peaceful resolution of the insurgency are remote.

Following Ethiopia's prolonged civil war, ethnic opposition groups have attempted to create a democratic government. The Transitional Government of Ethiopia (TGE) has, however, found reconciliation difficult due to the nation's ethnic diversity and resulting rivalries. Since former President Mengistu's ouster in May 1991, the TGE has made sweeping efforts to control the activities of political organizations and military forces that oppose the transitional charter. Another complicating factor is Eritrea. Although technically part of Ethiopia, Eritrea will vote for its right to self-determination in a UN-sponsored referendum in April 1993. Separation would leave Ethiopia landlocked and pose additional problems for a nation facing continued internal strife and dissension. Despite serious internal problems, the TGE under the leadership of President Meles Zenawi has taken positive steps to reduce tensions in the region. The TGE has strongly supported UN humanitarian efforts in Somalia by providing access to Ethiopian airspace and airfields. More importantly, President Meles was instrumental in bringing together warring Somali factional leaders by hosting UN-sponsored Reconciliation Meetings in Addis Ababa.

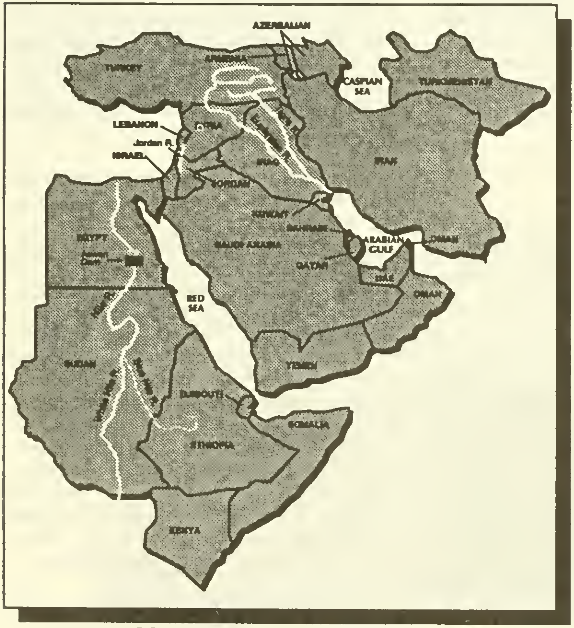
CIVIL WAR AFTERMATH IN ETHIOPIA



THE ELEMI TRIANGLE

The Republic of Djibouti is also experiencing internal strife between the Issa-dominated government and elements of the second largest ethnic group in the area, the Afars, represented by the Front for the Restoration of Unity and Democracy (FRUD). Although the FRUD has characterized its struggle as a push for multiparty democracy, it is in reality a contest over political power. The Afars are attempting to replace the ruling Issas who have held power since independence in 1977. Most of the intense fighting has taken place in the north and west of Djibouti City. The FRUD controls about two-thirds of the country, but only 15-20% of the population. An unofficial cease-fire in February 1992 lasted only seven months, during which time the French government tried, unsuccessfully, to bring about a peaceful settlement.

Somalia deteriorated into complete anarchy following the overthrow of Siad Barre's regime in January 1991, leaving various clans and armed groups fighting for control. Today no functional civilian or military authority exists at any level. Operation RESTORE HOPE is paving the way for a UN rehabilitation effort for the country. The flow of badly needed humanitarian aid must continue to address the grave humanitarian tragedy as virtually all Somalis are famine victims, refugees, or internally displaced persons.



CONTENTIOUS WATER SOURCES

NON-MILITARY CHALLENGES

The region is also plagued with non-military challenges to stability. Population growth throughout the region will continue to place larger demands on regional economies and governments. With the exception of the oil-rich states along the Arabian Gulf, the Central Region is basically poor and faces a difficult economic challenge. Unequal distribution of oil reserves, natural catastrophes such as drought, famine and disease, and religious extremism all threaten stability. Additionally, water shortages may cause friction in three key regions.

WATER RESOURCES

First, Egypt, Ethiopia, and Sudan all rely on water from the Nile and its tributaries. In the past, both Sudan and Ethiopia have pursued construction projects on tributaries of the Nile which would divert some of its water. Presently, such projects are shelved due to civil war and lack of funds. Nevertheless, Egypt remains concerned over potential future diversion of the Nile's water resources.

Second, Turkey demonstrated it could control the flow of the Euphrates River to Syria and Iraq when it diverted the water to fill the new Ataturk Dam reservoir. Ankara claims it compensated its neighbors for the lost water, but this action and recent Turkish announcements on Euphrates river projects have highlighted the need for regional river management agreements.

Finally, the Jordan River and its tributaries are the major sources of water for Jordan and Israel. The introduction of additional Palestinians from the Gulf States following the war has increased the demand for water in Jordan, just as immigration of Russian Jews to Israel has added to the demand there. Water negotiations will become crucial as potable water supplies will be insufficient to meet the demand by the year 2000. This must be an integral element of any future peace settlement.

OIL

Oil will remain the world's primary source of energy fuel for the foreseeable future. Reinforced by increasing demand from industrialized countries as well as emerging third world nations, the importance of oil and its availability will be a principal concern for global economies throughout the 1990s.

PETROLEUM PRODUCING INFRASTRUCTURE

UNITED STATES RELIANCE ON IMPORTED OIL
(Millions of Barrels Per Day)

	NET OIL IMPORTS (AVG)	PERCENT OF IMPORTS
TOTAL OIL IMPORTS	6.55	100%
ARABIAN GULF	1.79	27%

The outlook for increasing oil demand highlights the importance of the Middle East as the major supplier of the world's oil needs well into the 21st Century. With about two-thirds of the world's oil reserves, the Arabian Gulf countries will remain vitally important in satisfying the world's growing energy requirements. The low cost of Arabian Gulf oil will further add to the growing dependence by countries around the world.

Emerging as a significant trend in the world oil market is the growing centralization of world oil production in the Arabian Gulf region. The area's share of the world supply is projected to increase from one-fourth today to about one-third by the year 2000. Adding significance to the level of Arabian Gulf oil production is the expected decline in oil production elsewhere. Many major oil-exporting countries have experienced political, economic, or diplomatic difficulties within the past year. For example, oil production and exports from the former Soviet Union, crucial to many European countries, fell dramatically and may fall further in 1993. With fewer alternatives to Arabian Gulf oil, supply disruptions within the region would cause greater concern.

In 1993, several important factors could adversely affect the availability of energy

PRINCIPAL SOUTHWEST ASIA OIL RESERVES		
COUNTRY	QUANTITY (Billions of Barrels)	Percent of World Reserves
Saudi Arabia	260.0	26.0%
Kuwait	98.0	9.8%
UAE	98.0	9.8%
Iran	93.0	9.3%
Iraq	100.0	10.0%
Qatar	3.3	0.3%
Total	652.3	65.2%

supplies from the Middle East. The competition among neighboring countries over existing, new, or anticipated energy resources may heighten tensions in this volatile region. Any conflict that threatens to close such chokepoints as the Strait of Hormuz, the Bab el Mandeb, or the Suez Canal would also have a dramatic impact on the world's economy. Other forms of instability that might disrupt the flow of oil from the region would have a similar effect.

NATURAL CATASTROPHES

In addition to concerns over water and oil, natural catastrophes have severely affected the region. Famine, drought, and disease have brought misery, starvation, and significant disruption of economic activity.

By far the most widespread of these humanitarian disasters is famine. In eastern Africa, the countries of Somalia, Ethiopia, Sudan, and Kenya are all experiencing various levels of famine conditions. The reduced food production caused by a persistent drought would have resulted in famine in any case, but the tragic situation today is largely the product of civil wars and inter-clan fighting through much of the area. Refugees from the violence flee their farms to camps where they can no longer provide for themselves. Government-sanctioned suppression in Sudan or armed bandits in Somalia interdict food before it can get to the needy. The massive influx of refugees from these two troubled countries

THE SUEZ CANAL - VITAL TO THE WORLD'S ECONOMY

FAMINE RAVAGES EASTERN AFRICA

has now exacerbated the shortage of food in Ethiopia as well. Until the security situation is sufficiently stabilized in Somalia and neighboring countries to allow unimpeded delivery of humanitarian aid, there is little hope for arresting the human tragedy that plagues this area.

Disease is also a major concern throughout Africa. The spread of AIDS threatens to reach epidemic proportions in the Horn. Malaria, cholera, and meningitis also plague the area. Most African countries are not ready to deal with the AIDS problem and are ill-prepared even to deal with more traditional maladies. Medical systems, marginal at best in many countries, have few resources or trained personnel. Substantial social, language, and educational barriers also exist. While non-governmental organizations have supplemented whatever medical services exist in these countries, ongoing civil wars and declining economies have intensified the medical crisis.

In addition to these ongoing tragedies, Egypt suffered a major earthquake in 1992. Centered near Cairo, the quake did extensive damage and left thousands homeless. Fortunately, injuries were limited and rebuilding efforts are well underway.

Finally, the environment in the region is still recovering from damage done by Iraq in the Gulf War. Most, but not all, of the smoke generated by the uncontrolled burning of oil wells in Kuwait has been removed from the atmosphere by normal cloud development and precipitation, minimizing global as well as regional pollution. Less encouraging are reports on the impact of the oil slick in the Arabian Gulf. The oil, which currently extends approximately 85 km along the Saudi coast, has killed all life there leaving the area "environmentally dead."

MARGINAL MEDICAL SYSTEMS EXIST IN AFRICA

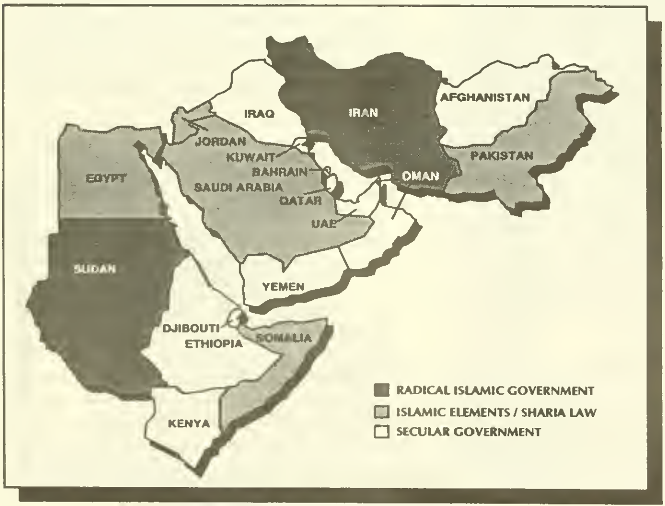
OPIUM POPPIES ABOUND

ILLEGAL DRUGS

The production of illegal drugs such as heroin, opium, and hashish in the Central Region has become a serious problem. While anti-trafficking efforts and measures to destroy illegal crops are being intensified by the governments involved, smuggling continues virtually unabated through the porous borders of Afghanistan, Pakistan, and Iran. Narcotics traffickers in this region are now better armed and equipped and find the market increasingly lucrative. A coordinated effort by the governments and international organizations will be required to bring this problem under control.

ISLAMIC EXTREMISM

Another area of concern is the instability caused by the radical elements which support Islamic extremist policies as the solution to various societal problems. Extremist activities threaten U.S. interests when they are rhetorically based on grievances about Western influence. In the Sudan, for example, the National Islamic Front (NIF) demonstrated its desire to expand its extremist influence throughout the region by providing safe haven and training camps for terrorist groups and foreign Islamic radicals. Sudan is suspected of training radical elements targeted at other countries in the Horn, as well as Algeria, Tunisia, Libya, and Egypt. Continued Iranian backing (with both forces and money) of Khartoum's plans to export radical fundamentalism adds to the growing concern of more moderate governments in the region.



INCREASED ISLAMIC INFLUENCE

EXTERNAL CONDITIONS WHICH MAY THREATEN THE REGION

In addition to the concerns mentioned above, there are several external conditions in and among surrounding states that have a direct impact on the stability of the Central Region. Close ties between these countries and those of our region make the problems of these neighbors inextricably tied to the security of the Central Command's area of responsibility.

CENTRAL ASIAN REPUBLICS

With the dissolution of the former Soviet Union, the Central Asian Republics (CAR) are continuing to develop as individual entities. Their political, economic, and military ties evolve as they cope with their growing pains, commercial challenges, and potential long-range threats. The inevitable confusion caused by the breakup of the Soviet Union creates instability in these republics as new relationships evolve which can impact upon the Central Region.

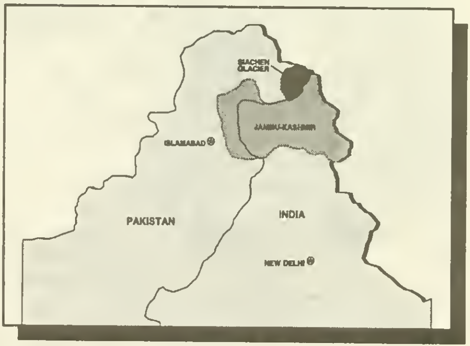
The strategic and economic importance of these newly independent states has not gone unnoticed by neighboring states. Turkey, Iran, Pakistan, and Saudi Arabia all enjoy some degree of ethnic, linguistic, or cultural/religious ties to the region. As the countries of Central Asia turn southward, as they eventually will do, these neighboring nations will play an important role for good or ill in their peace and stability.

ARAB-ISRAELI CONFLICT

After 44 years of hostility and five wars, both sides to the Arab-Israeli conflict have taken positive steps and begun negotiations. The positive momentum of the peace process reduces potential for renewed conflict for the moment; but underlying tensions, fear, and mistrust remain. While present negotiations are encouraging, we should not expect quick results. Until the Arab-Israeli problem is solved, it will continue to have profound influence on the social, political, and military situation in the area.

INDIA-PAKISTAN

Relations between India and Pakistan are another area of friction in our region. The potential for conflict between these two nations has been fueled by military modernization, nuclear arms development, and longstanding territorial disputes. India's modernized armed forces outnumber Pakistan's across the board, and this disparity has been the catalyst for Pakistan to develop a nuclear weapons' capability. Despite efforts such as the proposal for a Five Power Conference and continuing U.S. bilateral efforts to get India and Pakistan to discuss nuclear-related issues, the situation remains unresolved. The territorial dispute over Jammu and Kashmir has been the major impediment to improved Indo-Pakistani relations since India annexed most of this



INDO-PAK DISPUTED AREAS

territory in 1947. The determination of groups like the Jammu-Kashmir Liberation Front to continue to pressure the two countries to resolve this dispute was again demonstrated in 1992. On two occasions, planned marches across the Line of Control were stopped just short of the border, but not without casualties.

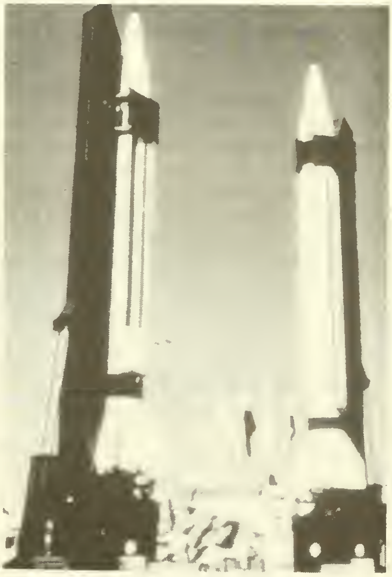
A newer dispute over the Siachen Glacier is mainly an issue of national prestige. Since 1985, both countries have maintained year-round garrisons in this frozen, uninhabited area near the Chinese border. While this dispute could be used as an excuse to escalate tensions elsewhere, political sensibilities of leaders on both sides will probably prevent this. There is, however, little chance of these two nations resolving their problems in the near term.

UNRESTRICTED ARMS SALES

Although the estimated value of Russian arms sales to the region has dropped dramatically, such sales remain important to Moscow as a source of hard currency. Russia continues to pursue economic ties with these states, with weapons sales playing a major role. Former Warsaw Pact countries are also courting Middle Eastern clients and are presently attempting to sell off excess equipment at bargain prices. The impact of these arms agreements will probably not be evident for some time, however, as deliveries lag behind sales.

China and North Korea have also continued arms sales across the region. For example, China has delivered helicopters, airplanes, surface-to-air missiles, vehicles, artillery, small arms, and various munitions. This equipment has particularly aided the Sudanese government in prosecuting its war against the southern rebels.

Iraq's ability to conduct ballistic missile operations during its war with Iran and the Gulf War demonstrated what could be achieved with 1950s-vintage SCUD technology. Seeing this, other regional nations have stepped up efforts to acquire or improve ballistic missile capabilities. China and North Korea have made missile systems available to virtually anyone with the ability to pay. The poor accuracy of these systems encourages use of area warheads such as chemical agents and nuclear payloads. However, improved guidance system and multiple warhead delivery technology is in great demand. As more accurate and powerful missiles are introduced into the region, nations involved in missile buildups will become increasingly capable of exerting political and economic influence over less-



IRAQI-MODIFIED SCUD B
BALLISTIC MISSILES

capable neighbors. For this reason, while promoting a comprehensive arms limitation regime throughout the Middle East, it is vitally important that the U.S. continue our policies of endorsing arms sales that allow our friends in the region to meet their legitimate defense needs. By so doing, we reduce the likelihood that U.S. forces will have to face these more lethal missile threats in future crises.

III. THEATER STRATEGY

A. PEACETIME STRATEGY

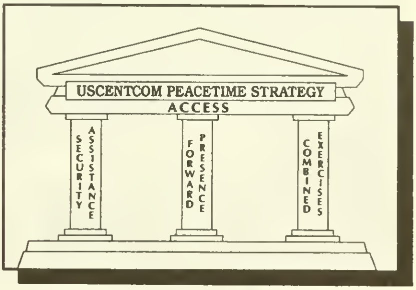
COALITIONS PROMOTE REGIONAL DEFENSE

OVERVIEW

The primary objective of the Central Command's peacetime theater strategy is to deter aggression. Effective deterrence in an era of declining U.S. defense budgets will be increasingly dependent on our ability to forge coalitions and promote regional defense cooperation. The key to the implementation of this strategy and the protection of U.S. interests will continue to be the integration of the military with the political, diplomatic, and economic elements of national power to maintain access in the region.

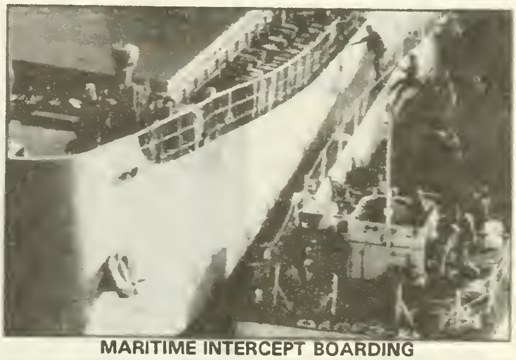
The peacetime strategy incorporates a three-tier approach and is designed to increase burdensharing by shifting more of the responsibility for deterrence and defense to friendly nations. The first tier is national self-defense. Programs that improve each nation's ability to provide an initial line of deterrence and self-defense are key. Defense cooperation arrangements are central to this effort. The second tier is regional coalition defense. A strong GCC is central to this element of our strategy. By sponsoring and participating in multilateral exercises, we promote such cooperation. The third tier is military backing by the U.S. and other extra-regional friendly nations to deter or defeat a common threat when regional capabilities alone are insufficient. Although we have made some important progress in developing regional capabilities, our friends in the region currently remain reliant on extra-regional support against major threats.

Continued access is fundamental to the success of our theater peacetime strategy. This access is built upon three pillars: forward presence, combined exercises, and security assistance. Together they enable us to maintain the necessary level of access in the region during peacetime and provide the foundation for action in time of crisis.



PILLARS OF PEACETIME STRATEGY

FORWARD PRESENCE



MARITIME INTERCEPT BOARDING

Forward presence is maintained by naval, land, air, and special operations forces in the region. They are complemented by prepositioned stocks and military construction projects.

Naval forces have traditionally played a key role in maintaining presence in the region, combining mobility, flexibility, visibility, and combat power. The Commander, Middle East Force (CMEF), with a command ship (USS LASALLE), several combatants, and some auxiliary ships, has maintained a continuous presence throughout 1992. In addition to providing command and control for all naval operations within the Central Command's area, Middle East Force ships have provided logistics support and repair services to our other naval forces in the Arabian Gulf and Red Sea. These ships have also actively supported UN sanctions against Iraq by conducting the majority of all maritime intercept boardings, over 6,000 by the end of 1992.

Augmenting CMEF, the carrier battle group (CVBG) has been the mainstay of naval operations in the Arabian Gulf over the last year. The carrier battle group's air wing has flown thousands of missions in support of UN sanctions against Iraq. Additionally, the CVBG has provided the majority of U.S. naval forces participating in the Command's Combined Exercise Program.

CARRIER BATTLE GROUP - MAINSTAY OF NAVAL OPERATIONS

AMPHIBIOUS READY GROUP

Additionally, an amphibious ready group (ARG) was either in the area or available on short notice throughout the year. The ARG showed U.S. support for Kuwait during Exercise EAGER MACE, and provided essential command, control, and coordination for the airlift of Pakistani UN peacekeeping forces to Somalia. Most recently, the ARG provided the flexibility to put U.S. Marines ashore in Mogadishu during Operation RESTORE HOPE.

Our land-based presence in the region, though still limited, grew in 1992. Vehicles and equipment prepositioned in Kuwait provide a flexible deterrent ground force response capability in the theater. In August 1992 we conducted the first of a series of INTRINSIC ACTION exercises designed to demonstrate strategic mobility and U.S. resolve in Southwest Asia. During this exercise, U.S. ground forces conducted unilateral training, as well as combined training with Kuwaiti land forces, under the command and control of Joint Task Force (JTF) Kuwait. This JTF was disestablished in December 1992 after the second INTRINSIC ACTION exercise.

PATRIOT MISSILE SITE

The presence of Patriot missile batteries in the region provides a visible symbol of U.S. commitment to our allies. Batteries were temporarily deployed to Kuwait and Bahrain during the period of tension in the fall. Additionally, those in Saudi Arabia remained deployed. While these units remain, this residual air defense capability will allow us to introduce forces into the Arabian Peninsula more rapidly in the event of a contingency.

The current Air Force composite air wing deployment to the region also supports both peacetime deterrence and contingency response. First, it provides forces for combined training to strengthen regional defense capabilities, while presenting a visible symbol of U.S. commitment.

Second, the composite air wing has the capability for a rapid initial response during crisis, as well as command and control for additional air forces for contingency operations. Like the deployed Patriot batteries, the composite wing is not a permanent fixture. However, both of these forces reduce potential strategic lift requirements for a contingency force for the duration of their presence.

PREPOSITIONED BARE BASE ASSETS

In addition to conventional units, Special Operations Forces (SOF) play an important role in our forward presence. These forces provide capabilities ranging from unobtrusive activities to high visibility deterrent operations. Special forces have routinely participated in exercises and provided operational support such as Combat Search and Rescue (CSAR). Special Operations Command Central (SOCCENT) training not only enhanced host-nation capabilities but provided critical insight needed for decisions on policy, strategic planning, exercises, and security assistance. These efforts have demonstrated U.S. resolve and allowed SOF to build on the military-to-military relationships, while facilitating immediate response to a wide range of contingencies, from humanitarian assistance and noncombatant evacuation to supporting combat operations.

SOF TRAINING OF HOST-NATION COUNTERPARTS

The Central Command's prepositioning program is a key element of our forward presence. Specific benefits of the program are reduced strategic lift requirements, improved reaction time in responding to crises, and the ability to sustain forces until resupply channels are opened. Prepositioned items in the area include: Air Force bare base sets, water and fuel distribution equipment, medical equipment and supplies, support vehicles, and selected combat equipment. We have made significant progress in gaining agreements with host nations to preposition equipment ashore. These arrangements are essential to keeping open long-term access and providing a basis for continued cooperation. To supplement stocks ashore, we continue to develop afloat prepositioned stocks to enhance our flexibility.

Our afloat prepositioning program is based on the Maritime Prepositioning Force (MPF) concept which was used so successfully during Operations DESERT SHIELD and RESTORE HOPE. The MPF

A MARITIME PREPOSITIONING SHIP

consists of three Maritime Prepositioning Squadrons (MPS), each able to support a Marine Expeditionary Brigade (MEB) with supplies and equipment for 30 days. Other afloat prepositioning currently consists of four ships of Air Force stocks (primarily ammunition), and four ships containing Army sustainment stocks (e.g., ammunition and rations). The Army program is scheduled to be expanded by 1997 to a total of fifteen ships which will contain equipment and sustainment for an armored brigade. These afloat units for the various services are or will be strategically positioned to allow for rapid reaction anywhere in the world.

An element of forward presence which directly supports our prepositioning efforts is military construction (MILCON). We rely on Service MILCON projects for the warehousing and support facilities to stage forces and protect prepositioned materiel from the harsh desert climate. The Central Region is infrastructure-poor, compared to other theaters, and has few of the military necessities to support deploying forces. Facilities in the area reduce strategic lift requirements for joint and combined exercises as well as joint force staging for contingency response.

These diverse elements of our forward presence are essential to maintaining the access so important to our peacetime strategy. Naval and land-based conventional and special operations, prepositioning, and MILCON projects demonstrate commitment to our regional allies, strengthen defense relationships, and enhance deterrence.

MILCON PROJECT

COMBINED EXERCISES

Combined exercises form the second pillar of our peacetime strategy and remain a perennial top priority for the Central Command. Combined exercises (U.S. and host-nation forces) maintain access, promote interoperability, and raise readiness standards of our allies. They also reconfirm U.S. resolve and foster reliable friendships. The valuable experience gained during combined exercises provides a foundation for building strong coalitions in the future.

A comprehensive, combined exercise program in Southwest Asia (SWA) reinforces the U.S. commitment to regional peace and stability. Exercises provide less-developed military organizations in the region with visible evidence of U.S. support and enhance our military-to-military relationships. Our regional allies have become increasingly aware of the importance of these exercises, and as a result we have seen a fivefold increase in the program since the Gulf War.

Building upon this strong foundation of bilateral exercises with our friends in the region, we are pursuing more challenging and complex trilateral and multilateral exercises for the future. These exercises, both field and command post, will greatly enhance the ability of regional forces to operate together for mutual defense, and with us in a coalition effort.

Exercise Related Construction (ERC) projects directly support our exercise program and are a cost-effective component of our peacetime training operations. For example, Army National Guard engineer units recently constructed 12 aircraft sun shelters and made improvements to three aircraft bombing ranges which will be used by U.S. Air Force and Navy tactical aircraft during future exercises. These projects provide valuable training in the region for both active and reserve engineer units.

Central Command's Humanitarian and Civic Assistance (H/CA) program provides basic medical, dental, and veterinary care, as well as rudimentary construction projects in developing countries. This program which serves basic needs of the local people continues to expand in scope. In FY92, we scheduled and conducted three H/CA projects. Nine total projects are already proposed for FY93, while others are under consideration. The H/CA program has proven to be highly cost-effective, producing big returns in regional relations for a relatively small investment.

In summary, the combined exercise program is an essential link in our regional strategy. Exercises maintain access while promoting interoperability and enhancing our collective ability to employ the three tiers of regional defense against a common threat.

EXERCISE RELATED CONSTRUCTION

CORPSMAN TREATS REFUGEE

SECURITY ASSISTANCE

With ongoing reductions in U.S. military forces, security assistance, the third pillar of our regional strategy, is more important than ever. Security assistance serves our purposes by increasing the ability of U.S. security partners to assume a greater share of their own defense. It is key to our efforts to build cohesive defense arrangements with friends and allies, and promote military interoperability. The program also provides us some degree of influence as we control the transfer of arms to the region as well as the means to maintain and support them. This, in turn, allows us to promote stability, human rights, and democratic values.

Our security assistance relationship in the Central Region is now into its fourth decade with some countries. A major aspect of that relationship has been Foreign Military Sales (FMS), which have totaled more than $110 billion since 1950. Since the establishment of the Central Command only 10 years ago, FMS have exceeded $62 billion. The Gulf War caused a dramatic increase in FMS activity, which rose to an all-time annual high of $16.5 billion in FY91. The FMS accounts in the AOR make up 45% of the worldwide total sales, and average approximately $800 million per month.

The FMS process delivers a wide variety of articles and services to our security partners. The majority of FMS dollars have been devoted to the purchase of weapon systems, such as land combat vehicles, aircraft, naval craft, and radars. However, the FMS process also places great emphasis on maintenance and follow-on logistical support for equipment, as well as all aspects of training, in both the host country and the United States. A significant portion of FMS expenditures, particularly by the Arabian Gulf states, has been devoted to military construction. Without Saudi Arabia's 40-year commitment to build its military infrastructure, the task facing our forces in DESERT STORM would have been considerably more difficult.

Our security assistance policies and foreign military sales over the years have permitted countries of the Central Region to successfully contribute to their own defense. Saudi Airborne Warning and Control System (AWACS) and fighter aircraft and two Egyptian combat divisions outfitted with U.S. equipment are examples of major Arab

AWACS ENHANCE SAUDI SELF-DEFENSE

contributions to the liberation of Kuwait. Since coalition warfare in future conflicts is a reality, our interoperability with coalition partners is both an operational imperative and a force multiplier. By providing U.S. equipment and support to our allies and friends we ensure not only that they will be able to operate with our troops, but that they will be able to shoulder more of the common defense burden.

Our Security Assistance programs allow us to achieve interoperability in several areas essential to success on the battlefield. We employ common weapons and other end items. As a result, we share commonality in ammunition, spare parts, and related logistic items. Finally, we have the ability to fight with similar doctrine, tactics, and procedures. By these means, our security assistance programs streamline logistics and maximize efficiency in combined operations.

Another major goal of security assistance is to enhance the leadership qualities and professional/technical skills of our military counterparts. We recognize the special educational, cultural, and social factors that make each of our security partners unique. However, we want to share with them the proven principles and methods of leadership, supervision, strategy, and related skills that have served the U.S. military so well through the years. Much of this is accomplished through the International Military Education and Training (IMET) Program. This program provides funding for foreign students to attend military schools in the U.S., primarily to enhance their professional military education. Dollar for dollar, IMET is our most cost-effective security assistance program. It pays big dividends in foreign relations and provides opportunities for allied military personnel to train in our schools, make American friends, and observe firsthand our way of life. A recent successful initiative has been an "expanded IMET," which offers similar educational opportunities to foreign civilian personnel. This program contributes to responsible defense management and fosters respect for civilian control of the military.

In summary, our security assistance programs are extremely cost-effective. Foreign Military Sales programs are financed by the recipients. For a relatively small cost, IMET enhances interoperability and sows the seeds for future military-to-military contact. Thus, security assistance offers an efficient means of attaining our military objectives with a limited U.S. investment.

IMET ENHANCES INTEROPERABILITY

B. WARTIME STRATEGY

OVERVIEW

The Central Command's wartime strategy builds on our peacetime strategy. Our increased forward presence, the significant increase in combined exercises, and our coordinated security assistance efforts have enhanced our ability to rapidly transition to contingency operations or a wartime footing. Through our efforts, regional friends have improved their ability to defend themselves, and to act together as part of a coalition to defend the region.

Our strategy encompasses the full operational continuum, from limited crisis or humanitarian assistance operations through fighting a major regional conflict. It requires an ability to act on ambiguous warning and to rapidly shift from contingency to wartime operations. It also relies heavily on the burdensharing and coalition warfare contributions of our regional allies.

OBJECTIVES

Should the U.S. Central Command again be called on to confront aggression, our objectives would be to operate in concert with our friends to deter potential enemies and, should deterrence fail, to defeat any aggressor and protect U.S. vital interests in the region. In the event of hostilities, we will attempt to control escalation in the early stages of the conflict while building up our combat power. When sufficient combat power is available in theater we will capitalize on aerospace/maritime superiority and overwhelming ground combat power to rapidly defeat the aggressor and terminate hostilities on terms favorable to the United States.

PHASES

To achieve these objectives, our strategy envisions three phases of operations that are embodied in all of our joint and combined operational planning. These phases are: deterrence, defense, and offense.

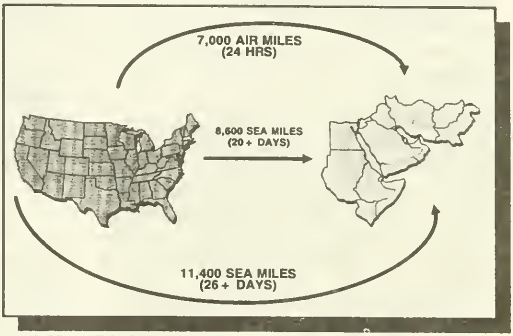
Coalition warfare and burdensharing are essential to the conduct of any future combat operation in the Gulf. We depend on friends in the region for many things such as political and diplomatic support, access throughout the theater, critical airfield and port facilities, complementary military capability, host-nation support, and much more. We depend on other friends around the world for political and diplomatic support to build and maintain a coalition, to contribute significant military capability, and to otherwise share the burden of reestablishing peace and stability in the region.

The likelihood remains high that the Central Command will be called on to respond to additional regional crises within the next decade. Consequently, we will continue to refine our peacetime and wartime planning, enabling us to respond quickly and decisively to protect U.S. vital interests in the region while minimizing friendly casualties.

C. SUPPORTING ELEMENTS

OVERVIEW

Forces apportioned to the Central Command are drawn from an inventory of national assets. They incorporate active, reserve, and civilian elements in air, land, and naval components. These forces are flexible and expandable, allowing proper response to any crisis. Several supporting elements enable these forces to successfully execute our peacetime and wartime strategies. Strategic lift, communications, command and control (C³) infrastructure, intelligence architecture, force structure, personnel, research and development (R&D), and fiscal support all contribute to our ability to effectively employ our forces.



STRATEGIC LIFT IS ESSENTIAL TO USCENTCOM

STRATEGIC LIFT

Strategic lift is the indispensable lifeline for the Central Command to meet its commitments in this area. At over 7,000 air miles and 8,000 sea miles, the extraordinary distances from the U.S. amplify the immense difficulties inherent in lifting a force in response to a crisis or contingency.

Force drawdowns overseas will diminish the en route support structure between the U.S. and the Central Region, compounding our problem. Without a viable en route capability, airlift deployment times could increase by as much as 50 percent. To maintain this important capability, we must ensure that reentry and access rights are negotiated as we drawdown in Europe and elsewhere.

Our ability to mobilize the total strategic lift system relies heavily on reserve elements, including crews for airlift and tanker aircraft. The role played by reservists in the strategic lift process can be expected to grow even larger as active forces continue to draw down.

In the event of another major regional crisis like DESERT STORM, our strategic sealift resources would be stressed to their limits. Under less demanding scenarios, there is currently sufficient sealift to support our existing regional plans. However, sealift may be inadequate to meet the demands created by multiple regional crises. The proposal to acquire more roll-on/roll-off ships, build additional strategic sealift ships, and enhance the Ready Reserve Fleet (RRF) to improve force closure profiles addresses these increased needs.

Despite these initiatives our long-term strategic sealift capability remains questionable. The average age of our merchant mariner is 55 years and increasing, while the number of qualified mariners who

FAST SEALIFT SHIP

operate the RRF continues to wane. These factors, combined with continued decreases in U.S.-flagged shipping could adversely affect our future ability to deploy, employ, and sustain forces in response to a regional contingency.

Existing strategic airlift supports our current regional contingency plans, but only marginally. Should multiple crises occur, the available strategic airlift could not meet the demand.

Today, 50% of the C-141 fleet is unable to carry full loads at optimal altitudes. Despite efforts to maintain capability through various modifications to the aircraft, a replacement for this airframe is critical. We must prudently manage the modernization of our airlift fleet and ensure that production of the C-17 to replace the aging C-141 fleet remains on track. Meeting our future airlift requirements hinges on this timely production of the C-17, and any delay in fielding that platform diminishes our deployment capability.

C^3 INFRASTRUCTURE

Communications are also critical to our efforts in the region. There is a demonstrated need in our area for a permanent communications infrastructure with rapid buildup capability. This need is met by a mix of permanently installed

C-17 -- REPLACEMENT FOR AGING C-141 FLEET

SWA TELECOMMUNICATIONS EQUIPMENT

equipment such as Southwest Asia Telecommunications Systems (SATS) and the transportable Tactical Contingency Communications Equipment - Central Area (TCCE-CA). We use this equipment to create a flexible and integrated communications system able to support joint task force (JTF) operations in the AOR. The permanently installed SATS portion can also support the early stages of a major regional contingency operation.

The SATS main communications sites are interconnected by microwave radio and linked by satellite to the U.S. and Europe. This connectivity provides access to the Defense Switched Network (DSN), AUTODIN, and the Defense Data Network (DDN). The satellite equipment in Bahrain is being upgraded to provide greater capacity for inter-theater trunking and gateways for naval ship-to-shore communications.

TCCE-CA consists of deployable Air National Guard and Army command and control systems, which provide us with an extended backbone communications network when deployed to the area and connected into SATS. The equipment is configured into three major and nine minor communications nodes, capable of providing satellite connectivity, voice and message switching, and access to AUTODIN and DSN. These nodes can be deployed for installation and operation at locations throughout the AOR in support of exercises and operations.

Topography and the great distances involved mandate the use of numerous satellite systems for both inter- and intra-theater communications. The Defense Satellite Communications System (DSCS) Upgrade Program, UHF Follow-on Satellite Communications Program, and MILSTAR will provide the continuing essential satellite access for this critical C^3 infrastructure.

PORTABLE SATELLITE DISH AT A BASE CAMP

INTELLIGENCE ARCHITECTURE

High quality, timely intelligence is essential to a military commander, especially in a volatile region such as ours. This includes the early identification of threats to U.S. vital interests so that planning and operations may proceed. Intelligence operations must meet national and theater information needs as well as those of operational and tactical commanders.

Although Central Command does not have a permanent intelligence node in the region, we have met our requirements by building task-organized, joint intelligence elements as part of Joint Task Force headquarters, and deploying them into the theater of operations. Interoperability and joint system use have improved, and support from the national intelligence community continues to be essential to providing correlated, accurate intelligence from all sources to build assessments about regional activities.

In keeping with the Department of Defense (DoD) emphasis on focusing defense intelligence at the theater command level, the Central Command and the Special Operations Command (both at MacDill AFB, Florida) have developed a joint intelligence support concept. This concept will allow the commands to share common resources and systems while developing two dedicated joint intelligence centers to meet the unique requirements of each commander. Local intelligence production efforts will be expanded with the assumption of responsibilities formerly held by other agencies. To accomplish this, defense intelligence resources will be relocated from other areas. Increased electronic connectivity and the use of common facilities will also optimize available resources.

FORCE STRUCTURE

The proper force structure is critical to our ability to perform assigned military missions in support of national strategy. This includes not only the total force levels for the U.S. military, but the optimum active component/reserve component (AC/RC) mix.

The FY94 force levels proposed by Secretary Aspin are designed to apply the decisive power necessary to prevail over an adversary and terminate a conflict quickly. Cuts taking the force below these levels must be carefully managed to avoid jeopardizing our ability to successfully execute our wartime strategy, while retaining a sufficient ready reserve to respond to crises in other theaters.

In determining the proper AC/RC ratio for the armed forces, several factors must be considered. Rapid response actions and other crisis situations will primarily require active forces which are fully trained and readily available. While some reserve units are capable of early deployment in a crisis (air guard, engineer, service support units), reserve ground combat units require considerable additional training before deployment, and would best serve as "roundup" units or replacements for active units. It is essential that this delicate balance be maintained in any adjustments to total force levels that might be considered in the future.

PERSONNEL

The quality of our forces, Soldiers, Sailors, Airmen, Marines and Coast Guardsmen, remains the single most important facet of our nation's readiness. As we proceed with scheduled force reductions, our ability to rapidly deploy sufficient combat forces into the region to meet probable contingencies must remain an integral part of force planning.

Deployed and permanently assigned personnel continuously meet the challenges of life in the arduous and difficult regions of Southwest Asia. We must continue to promote readiness and mission accomplishment by providing Morale, Welfare, and Recreation activities that

PEOPLE - OUR MOST IMPORTANT ASSET

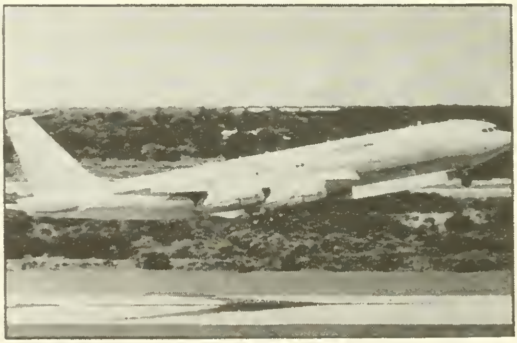
stimulate physical fitness, unit and community cohesion, and a high quality of life for service members and their families. The Funded Environmental and Morale Leave (EML) Program has provided much needed relief from hardships inherent to assignment to remote locations. These initiatives help to attract quality personnel and go a long way toward enhancing their morale and readiness.

RESEARCH AND DEVELOPMENT

The force structure of the next century will be a function of the research and development (R&D) of today. The Central Command supports an R&D strategy which accommodates shorter battlefield response times and achieves reduced deployment tonnages. The key to quicker response times is machine-processable, automatic target recognition which is based on precise geographic locations. The precise position must be based on a common reference between intelligence and strike systems. Using smart munitions in these strike systems will increase efficiency and decrease deployment tonnages. Shortened timelines, increased efficiency, and reduced tonnages can make the inevitable upcoming fiscal cuts less painful by allowing us to tailor a force structure for the future.

To make this timely targeting information accurate as well, precise location can be provided by improved Global Positioning System (GPS) data. Eventually GPS receivers should be on every intelligence platform, weapon system, and even weapon. Given a common target location reference, processing time can be further reduced through direct links from the targeting system to the actual weapon. Progress toward this goal has already been made with the Joint Surveillance and Target Attack Radar System (JSTARS) so valuable in Operation DESERT STORM.

A secondary benefit of common target position information is the prospect of less expensive smart munitions. Weapons can use a combination of GPS and inertial navigation systems (INS) to reduce reliance on expensive seekers or guidance systems.



JSTARS - A HIGHLY SUCCESSFUL R&D PROGRAM

The Central Command's R&D strategy is focused on reducing deployment tonnages and improving response time. Technology will allow us to tailor a smaller force structure of the future to maintain peak combat effectiveness.

FISCAL SUPPORT

Central to all of the supporting elements of our theater strategy is the continued fiscal support for the programs critical to our success. The shift in defense planning from a Warsaw Pact global threat focus to one emphasizing regional threats and challenges directly impacts on our mission. We have evolved from an economy of force theater to the central element of national military strategy.

This shift in emphasis increases our commitments in the areas of forward presence, exercises and training, security assistance, and support architecture. A concurrent reduction in total resources available to DoD will make it increasingly difficult to meet these demands. As a result, careful fiscal management will be required to fully implement this shift in national strategy.

The existence of the DESERT STORM Defense Cooperation Account has delayed the financial impact of sustaining our higher activity levels, but that account expires this fiscal year. Recent Congressional authority to receive reimbursement from the Government of Kuwait for exercises in that country will help offset some of our growing resource requirements. However, there is no comparable source to offset our Service component costs ashore in the Gulf Region or for naval units operating in the vicinity. Although we will actively continue our efforts to look for additional economies while seeking burdensharing through assistance-in-kind agreements with our Gulf allies, our increased commitment requires additional funding for people and hardware.

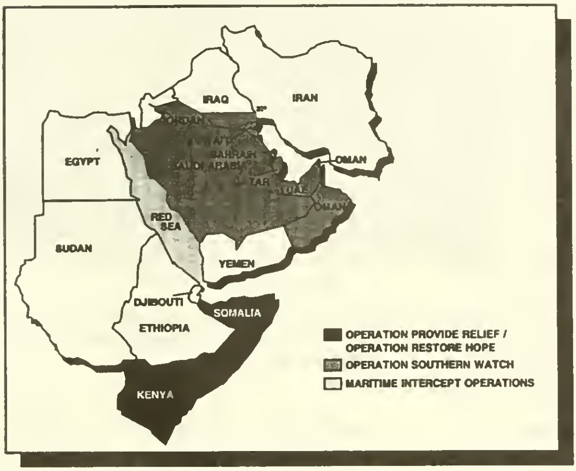
Programs that directly or indirectly support our theater strategy are particularly important in light of the fiscal constraints with which we are faced. These include programs that contribute to our coalition warfare initiatives, such as Foreign Military Financing (FMF), cash sales, International Military Education and Training (IMET), and the Joint/Combined Exercise Program. They also include strategic lift programs like the C-17 and the National Defense Sealift Fund to facilitate moving the required forces to and within the theater. Finally, they include the actual forces and equipment to do the job -- such as the Maritime Prepositioning Force (MPF), ocean and shallow water mine warfare enhancements, amphibious lift, aircraft carriers, a medium lift replacement for the CH-46 helicopter, and C^3I improvements. These are required in the areas of satellite communications, battlefield Identification, Friend or Foe (IFF) and timely tactical reconnaissance responsive to the Commander. Only by targeting sufficient funds for these critical programs can we ensure that vital U.S. interests in our region will be as safe tomorrow as they are today.

In short, fiscal support for our theater strategy is critical to our ability to execute that strategy. The shift in emphasis from a global to a regional national strategy can be seen in the increased requirements in the Central Region. To meet these increased requirements, those programs identified as the Central Command's top priorities should be fully funded.

D. SUMMARY

The theater strategy for the Central Region is comprised of peacetime and wartime components, and supporting elements which facilitate their execution. Our three-tiered approach to regional defense emphasizes burdensharing. We accomplish the important goal of maintaining access in the region through the three pillars of forward presence, combined exercises, and security assistance. If our peacetime strategy fails to deter aggression, we will rely on a set of flexible responses to press home our determination to deter aggression. If deterrence fails, we will continue the buildup of forces for first defensive, then offensive operations to achieve our military objectives. The supporting elements which allow us to execute our peacetime and wartime strategies include strategic lift, intelligence architecture, force structure, personnel, R&D, and fiscal support. The combination of these elements allows us to bring to bear the military portion of our national power needed to support U.S. policy in our area of responsibility.

IV. OPERATIONS IN 1992


IRAQ
IRAN
JORDAN
BAHRAIN
SAUDI ARABIA
QATAR
UAE
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EGYPT
RED SEA
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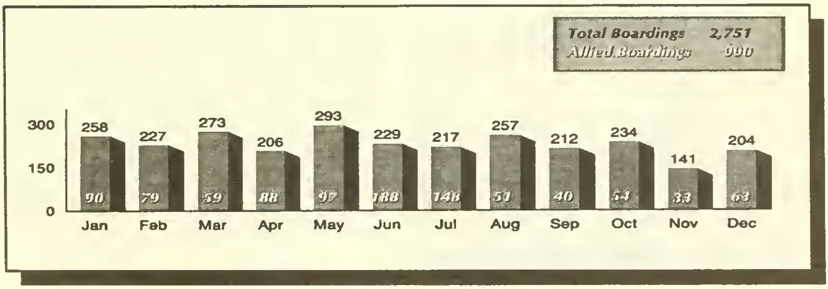
YEMEN
DJIBOUTI
SOMALIA
ETHIOPIA
KENYA
■ OPERATION PROVIDE RELIEF / OPERATION RESTORE HOPE
▨ OPERATION SOUTHERN WATCH
☐ MARITIME INTERCEPT OPERATIONS

OPERATIONS IN USCENTCOM'S AOR

A. MARITIME INTERCEPT OPERATIONS

Naval units from the United States, France, Canada, Australia, and the United Kingdom combined to maintain a continuous presence through 1992 in support of the UN sanctions against Iraq. These sanctions are spelled out in seven UN Security Council resolutions which require Iraqis to cooperate fully with the UN in destroying weapons of mass destruction, and which provide for an embargo of selected goods until they do so. Since ports in Iraq are not open, Maritime Interception Operations (MIO) to enforce the sanctions were conducted only in the northern Red Sea where ships destined for Aqaba, Jordan must transit.

Ships conducting the intercept operations had boarded and searched more than 6,000 merchant vessels by the end of 1992. Although U.S. ships accounted for the majority of these intercepts, French, Australian, Canadian, and British units carried out approximately one-third of them. These operations have been instrumental in the ongoing efforts by the world community to compel Saddam Hussein to comply with UN decisions.

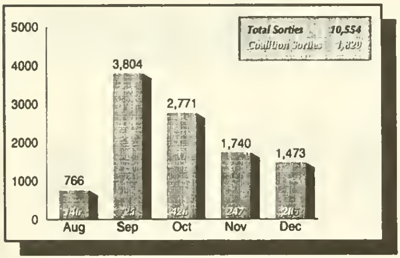


1992 MARITIME INTERCEPT OPERATIONS

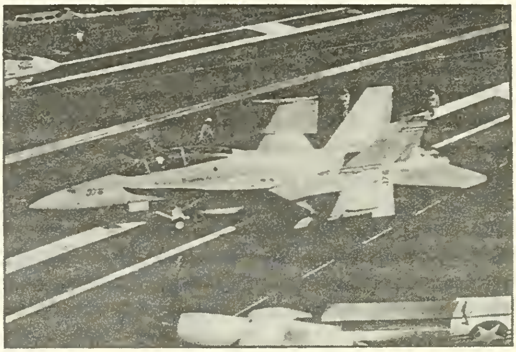
B. OPERATION SOUTHERN WATCH

Operation SOUTHERN WATCH was initiated in August 1992, in response to continued Iraqi non-compliance with UN Security Council Resolution (UNSCR) 688. This resolution condemned the repression of the Iraqi civilian population, including Iraqi air and ground attacks against insurgents in southeastern Iraq. We instituted an Iraqi no-fly zone south of the 32nd parallel to monitor Iraqi compliance with UNSCR 688 and established Joint Task Force Southwest Asia to command and control the operation. This approach was successfully used in Operation PROVIDE COMFORT in northern Iraq to protect the Kurdish population from Iraqi attacks and reprisals. While the Iraqi response could not be predicted, movement of their aircraft to bases outside the no-fly zone prior to its establishment foreshadowed compliance.

A limited number of U.S. aircraft, primarily for aerial refueling, were deployed to the region to augment existing forces for the operation. Our friends in the region allowed basing of these aircraft and allied countries provided additional forces. French and UK aircraft were integrated to ensure a robust force was available to exercise a wide range of options.



1992 SOUTHERN WATCH SORTIES



CARRIER FLIGHT OPS

During the initial phase of the operation, Coalition forces maintained a continuous airborne presence over the no-fly zone below the 32nd parallel. Flight operations supporting SOUTHERN WATCH included airborne reconnaissance, aerial surveillance of Iraqi air and ground activity, combat air patrols, and fighter sweep packages within the zone.

For several months Iraq honored the no-fly zone and the threat of armed response. As a result, our level of flight activity decreased since the first days of the operation. In December, however, Iraqi fighter aircraft attempted to conduct flight operations within the no-fly zone. U.S. aircraft destroyed one MiG and repelled the others. Later, air and cruise missile strikes were conducted in response to Iraqi introduction of surface-to-air missiles below the 32nd parallel as well as interference with UN enforcement of UNSC Resolution 687. Our forces remain at a heightened state of readiness and prepared to rapidly respond to any further challenges.

C. AIR DEFENSE/PATRIOT DEPLOYMENT

In response to requests from the Governments of Saudi Arabia, Kuwait, and Bahrain, the U.S. in 1992 deployed Patriot air defense batteries to the region. This joint endeavor established a benchmark for future Patriot operations when it completed a strategic deployment within days of alert notification. This effort demonstrated U.S. commitment to the region and our willingness to take steps to ensure the security of our friends. Patriot batteries remained in Saudi Arabia, providing continuous aircraft and missile defense coverage to key ports and population centers. Batteries were withdrawn from Kuwait and Bahrain in December 1992 but redeployed in January as a result of Iraqi noncompliance with the no-fly zone restrictions. These deployments have given us an opportunity to refine joint and combined, contingency operations plans while exercising interoperability and tactical procedures with regional partners.

D. OPERATION PROVIDE RELIEF

In August 1992, the Central Command commenced Operation PROVIDE RELIEF to supply much needed aid in eastern Africa. Severe food shortages, exacerbated by inadequate means of distribution, in both Somalia and northeastern Kenya required immediate response. Security concerns stemming from the ongoing civil war in Somalia further complicated the problem. On 17 August, a Humanitarian Assistance Survey Team (HAST) of 35 personnel deployed to Mombasa, Kenya. Within three days, Joint Task Force (JTF) PROVIDE RELIEF was established. Immediate tasks such as airfield and security surveys, communications connectivity, flight clearances, and coordination with relief organizations were also accomplished during this brief period. On 21 August the first food delivery mission was flown to Wajir, Kenya, beginning a massive effort that would continue for the remainder of the year.

PROVIDE RELIEF FOOD DELIVERY

U.S. forces supporting PROVIDE RELIEF subsequently peaked at 858 personnel and 14 C-130 aircraft. By year's end 1,699 missions had been flown, delivering nearly 20,000 metric tons of food and supplies. PROVIDE RELIEF continued under JTF Somalia control when Operation RESTORE HOPE was initiated in December.

During PROVIDE RELIEF and in support of United Nations Organization Somalia (UNOSOM), Central Command supported the movement of a 500-man Pakistani UN

DEPLOYING PAKISTANI UN FORCE

security force and its equipment to Mogadishu, Somalia (12 SEP-3 OCT). The USS TARAWA Amphibious Ready Group (ARG) was called upon for tactical command and control of U.S. air operations in that effort and subsequently turned these duties over to the USS TRIPOLI ARG.

E. OPERATION RESTORE HOPE

Operations in Somalia are unique since no national government exists. The causes of the political vacuum are many, but the result is a chaotic situation where the Somalis must depend on outsiders to provide civil services and protection for the population.

On Thanksgiving Day 1992, President Bush made the historic offer to assist the UN by providing up to 30,000 U.S. troops for the international humanitarian effort. This force was an emergency measure to respond to a death rate in Somalia that had reached 1,000 per day.

A PICTURE WORTH A THOUSAND WORDS

. On December 9, 1992, the Central Command commenced Operation RESTORE HOPE, a multinational, joint/combined operation in Somalia. Initially designated Combined Task Force-Somalia, the military organization was renamed the Unified Task Force (UNITAF) to emphasize the United Nations mandate under which the operation was authorized.

After the U.S. stepped forward to take the lead in providing security for the humanitarian relief effort, the international community offered, in unprecedented numbers, to contribute forces to the operation. The commander of UNITAF led the effort to effectively employ the diverse forces from the many contributing nations.

Initial contributing countries forming the core of UNITAF forces also included France, Belgium, Italy and Canada. Additionally, the early introduction of units from Botswana, Morocco, Egypt, and Turkey underscored the international character of the security effort. Force contributions from Australia, Kuwait, New Zealand, Saudi Arabia, Sweden, Pakistan, India, United Kingdom, Germany, United Arab Emirates, Tunisia, Nigeria, Greece, and Zimbabwe were also incorporated into the command. By mid-January 1993, the UNITAF commander determined sufficient forces to complete the mission were either in-country or programmed to arrive.

While several nations self-deployed, the U.S. military undertook massive strategic air and sealift operations to deploy both U.S. and contributing nations' forces into the theater of operations. Our men and women in uniform overcame, in quick fashion, the challenges of deploying to a location where infrastructure and host-nation support was completely nonexistent. During the DESERT SHIELD deployment, we moved into an austere environment, but host-nation support was available. In contrast, in Somalia we had to bring our own resources to conduct and sustain combined peace enforcing operations. Additionally, we had to deploy into a potentially non-permissive environment.

In executing this deployment, we moved over 36,000 passengers and 25,000 short tons of cargo by air, over 309,000 measurement tons by sea (including 22,000 tons staged aboard four ships of the Maritime Prepositioning Force), and provided logistics support to forces from 22 contributing nations.

The USCENTCOM mission statement from the National Command Authority was comprised of three tasks: provide security for food distribution centers, airfields, seaports, and key installations; ensure the security of relief convoys and relief organization operations; and assist relief organizations in providing humanitarian relief.

The execution of these tasks was divided into four phases. The first phase began with the seizure and securing of Mogadishu Airport. Phase I officially ended on 16 December after the port of Mogadishu and airfields at both Baledogle and Baidoa were also secured.

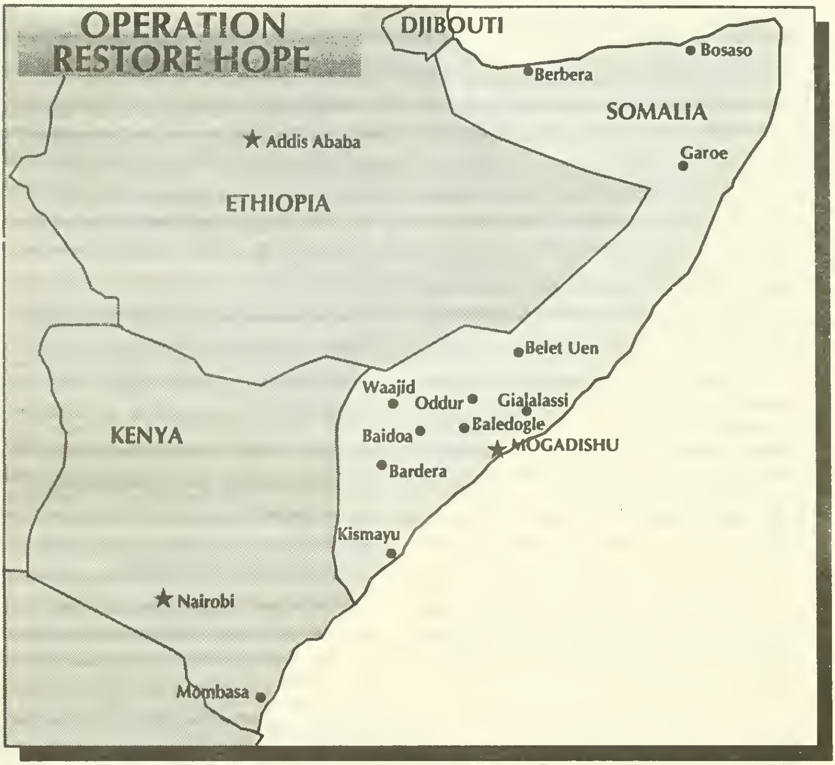
SECURITY PATROL IN MOGADISHU

Phase II commenced on 20 December with an amphibious landing to secure the port and airfield at Kismayu in the southern part of the country. Airfields at Bardera and Oddur were subsequently secured, and by 28 December, Phase II was complete with the securing of airfields at Gialalassi and Belet Uen.

Operation RESTORE HOPE's Phase III began on 28 December with the aim of expanding the security and humanitarian relief operations throughout the eight humanitarian relief sectors. As additional major food distribution centers were secured, mine clearing operations were conducted along the main supply routes connecting these centers, and infrastructure improvements were made. These included air and sea port repairs, road repair, and water supply enhancements.

This massive operation has broken new ground as our most ambitious peacemaking/humanitarian assistance effort to date, and has enjoyed strong international support. The operation is now in Phase IV with the objective of conducting a seamless transition from UNITAF to a UN-led, UN Organization in Somalia (UNOSOM II) operation. On completion of the UNITAF mission, the U.S. military will initially provide significant logistics support in-country and a quick reaction force.

Although this operation defies traditional measures of effectiveness, the dramatic drop in the daily death rate, from over 1,000/day to less than a 100/day (an improvement over even pre-famine levels) is indicative of our success to date. Market measures are also useful, and the price of food continues to drop while the price of



increasingly scarce weapons has skyrocketed. In addition, a Somali police force is rapidly being reconstituted. Having met RESTORE HOPE's basic objectives, the U.S. is facilitating the turnover to UNOSOM II by providing the deputy commander, as well as other military planners in both New York and Mogadishu to assist in the transition planning.

Operation RESTORE HOPE vividly demonstrates the ability of the U.S. Government to respond as part of an international coalition to humanitarian crises. USCENTCOM orchestrated the strategic deployment of U.S. and foreign forces and coordinated logistics to sustain the deployed force. Operation RESTORE HOPE also validates the joint task force concept for effectively employing deployed forces to create a secure environment for humanitarian relief operations. Finally, this operation underscores the commitment and capabilities of the men and women in the Armed Forces to accomplish demanding missions in the most remote and hostile of environments.

F. EXERCISE PROGRAM

The successful results of the Central Command's 1992 Combined Exercise Program reflect our strong commitment to this important element of our regional strategy. The initial schedule called for a total of 56 combined exercises (U.S. and host-nation forces) in 9 of 18 countries in the region. However, flexibility and aggressive pursuit of exercise opportunities resulted in a fivefold increase over pre-war levels, far exceeding expectations. In fact, 69 combined exercises were conducted in 11 countries, including the resumption of exercises with Pakistan and Jordan. Naval presence provided the impetus for the increase in total numbers, and accounted for 1 Maritime Prepositioning Force (MPF), 9 amphibious, and 40 naval surface and air combined exercises. Additionally, there were 4 special operations, 3 Tactical Air (TACAIR), 3 ground, 1 missile, 1 Exercise Related Construction (ERC), 1 air mobility, and 6 Explosive Ordnance Disposal (EOD) exercises conducted throughout the area.

The combined exercise program affords participants the opportunity to employ new tactics and doctrine through advanced scenarios. Because of the vast deployment distances involved, our program is geared to exercise the deployment/redeployment capability of our forces and equipment. For example, our demonstration of equipment offload capabilities during Exercise NATIVE FURY provided visible evidence to our friends and allies, as well as potential aggressors, that the U.S. can respond rapidly to crisis situations. The INTRINSIC ACTION ground exercise rotation illustrates the quick response capability of our ground troops. In August 1992 we established JTF Kuwait Headquarters to oversee a battalion task force, Special Operations Forces (SOF), and the deployed Patriot battery. The task force of 2,500 personnel, the majority from Fort Hood, Texas, fell in on prepositioned vehicles and equipment, to conduct maneuver and live fire training. Our SOF personnel joined with Kuwaiti ground and naval forces for combined training in internal defense measures such as individual soldier skills, small arms, and tactics. Kuwaiti naval and coast guard personnel received special forces training in weapons, small boat operations, maritime navigation, and patrolling.

KUWAITIS RECEIVE TRAINING

Having conducted increasingly complex bilateral exercises over the past year, we have planned and scheduled seven trilateral exercises and one multilateral, coalition Command Post Exercise (CPX) for 1993. This expansion of the range and scope of the program can lead to more ambitious multilateral exercises. Certain 1993 bilateral exercises are specifically designed for immediate expansion into trilateral participation by various countries in combination with U.S. forces.

Exercises remain a top priority for the Central Command, and continue to increase in importance. Adequate funding for transportation and Operations and Maintenance (O&M) exercise needs is necessary for the program to fully meet our contingency planning requirements. It allows us to sustain exercise frequency, maintain active engagement, and respond to new opportunities. Continued Congressional support is essential for the exercise program to remain a viable element of our peacetime strategy.

BRIGHT STAR - ONE OF OUR LARGEST EXERCISES

G. SUMMARY

In 1992 the Central Command saw a level of activity in its area of responsibility that belies the notion of a peaceful post-Gulf War/post-Cold War atmosphere. Continued Iraqi intransigence impeded international efforts to enforce UN sanctions, and violations of established no-fly airspace resulted in the shootdown of Iraqi fighter aircraft and strikes against SAM sites and a nuclear processing facility near Baghdad. In Africa, U.S. involvement began with Operation PROVIDE RELIEF helping to deliver aid to non-governmental organizations in Kenya and Somalia for distribution. As the security situation became untenable, our role expanded dramatically in Operation RESTORE HOPE to include peacemaking and armed protection of food shipments. Capitalizing on opportunities to conduct short notice exercises with regional partners, we greatly expanded that program. The benefits gained through traditional exercises and air defense deployments directly supported nearly every element of our theater strategy. Based on the state of affairs in early 1993, this year promises to be no less demanding.

V. CONCLUSION

The past year has been marked by sweeping changes in the world. In the wake of the Soviet Union's dissolution, nations new and old are struggling with the challenges associated with defining new relationships. Our national strategy has seen a corresponding shift in emphasis from meeting a global nuclear threat to responding to regional challenges. That region of the world assigned to the Central Command has continued to grow in importance, as one of the overseas areas most likely to become the scene of a regional conflict. It is the place in which U.S. interests have been repeatedly threatened during the last decade. Maintaining stability and preserving the free flow of oil and other commerce through the Central Region becomes increasingly important as the world economy grows even more interdependent.

Challenges to stability in the Central Region will continue to include military adventurism, ethnic rivalries, and natural disasters. The U.S. military has been successful in meeting these challenges in the past. For the future, we must actively promote regional security through our forward presence, combined exercises, and assistance to our friends. By so doing, they should be more able to meet their own legitimate defense needs. At the same time, we demonstrate to our friends and potential adversaries alike that we remain committed to assist when needed to maintain stability and security in order to protect the vital interests of the United States.

QUALITY OF THE FORCE

Mr. **Murtha**. Thank you, General. I appreciate your statement and, of course, as usual, the Marine Corps always is able to do a good job with a minimal amount of equipment. I know how that goes. Having said that, I agreed this year with the President's budget proposals very reluctantly. I have a great concern about the direction we are going after a number of years of real decreases in defense spending.

I think back to 1980 and look at the fact we couldn't pull off Desert One, which was a fairly minor operation. It would have been one thing if we ran into problems when we made the final assault into the compound, but we couldn't even get there. It was a disaster and one of the lowest points in the military history of this country as far as readiness goes.

When you compare you will see that we had the same number of people in the services in 1991 as we did in 1980. When you consider what we did in Desert Storm, you see the great progress we have made.

I told the President that we cannot continue to be able to deploy like we did in Desert Storm if we continue to reduce the amount of money available to the armed forces. As good a job as we did in Somalia, I have great concern that it depletes so much of our operational money.

When I go into the field, I see some discontent, not near what I saw in the early eighties and late seventies, but a difference in morale.

There are a lot of qualified, highly motivated people questioning the sense of staying in because there is no future in the armed services—the propensity to enlist is down.

Instead of 100 percent high school graduates, we now have about 90 percent in the Army. We have a residual we have built up over the years which has done us well with equipment and training, but if we continue to reduce money and continue the tempo of deployment we have now, we will have problems.

We haven't replaced the money used for these missions and consequently, I assume your resources are less than you would like.

Are you starting to feel any reductions related to training that you are worried about at this stage?

General **Hoar**. Yes, Mr. Chairman, I believe it is safe to say that each of the Services provide the O&M funding, and are extraordinarily upset—that is the wrong word—concerned. The supplemental is certainly central to solving the problem.

We continue to maintain a composite wing ——— as you know. We have almost ——— there. We continue the presence of naval ships in the Central Region. Today in the Central Region, there are 28 Navy ships deployed, including a carrier battlegroup, submarine and amphibious forces. Those forces particularly in the Gulf ——— are organized to meet our responsibilities of enforcing the no-fly zone in Southwest Asia, while they are, at least in the Air Force case ———.

There are other costs associated with that. They Navy bears most all the cost of this increased tempo in the Gulf because they don't have the ———. The Army and the Marines in Somalia are both eating up O&M money that was unprogrammed and you see it in every aspect of our operation out there.

It is very austere.

General Johnston made a conscious decision to keep it that way, first because we believe that our commitment there was of a limited duration and secondly because of the costs associated with it.

So all of the services are very concerned about these additional costs and the operational tempo issues that affect costs. And yes, we are beginning to see those problems and I will explain. One minor example is the amphibious ready group with the flag ship Tripoli that participated in Somalia. After completing what I think was an extraordinarily successful operation in Somalia went up into the Gulf and continued its naval presence in that area. The sailors and Marines were scheduled to go to Western Australia for a port visit on the way home.

That was canceled for lack of funds and that is the sort of thing that we started to do in the seventies, sailors and Marines sailing by liberty ports because there wasn't enough money to put them in for a couple of days.

I hope this is not the beginning of a trend. This seems like a small thing, but for sailors and Marines, frequently the highlight of a six-month deployment is stay in a country that likes Americans and there is a good opportunity for liberty.

I cite that as one example.

FORCE READINESS/MORALE

Mr. MURTHA. I appreciate that. Not long ago, I met with junior officers and they were telling me that in the one squadron, there were 11 divorces out of 17 pilots.

I don't know if this is out of the ordinary, but I wrote a long letter to General Powell asking him to give me some idea of what problems we are having with the families when active duty people are away from home so often.

I made the statement a couple of times and I know that a lot of the military don't agree with me, but I have said flatly that it would be impossible to have another Desert Storm deployment in the same time frame with the amount of money we have available if we had to pay for it.

I realize there were unique circumstances where our allies paid and we had perfect port facilities and airports that were there.

Do you think we could pull off a Desert Storm right now in the same time frame even given the same circumstances, considering the way that we are building down now? Do you think Central Command could put it together with the same time frame?

General HOAR. I think the time frame would be very difficult, Mr. Chairman, and I will tell you why.

The Seventh Army Corps that participated with such great distinction in Desert Storm is no more. It is gone.

If you were to take, for example, the Third Army Corps out of Texas, you add additional lift requirements and time.

The second thing, which I think is of far greater concern to me, and this is as a direct result of our operations in Somalia, the C-5 and C–141 fleet is in big time trouble. Those airplanes are overworked. ———.

I talked to a U.S. Army battalion commander in Baidoa, in Somalia who told me he had troops scattered in five different countries.

Everybody had left Fort Drum, but he wasn't sure where they were. There were some in Spain, Iceland—we are in serious trouble on airlift mainly because of the age of the airlift fleet and the continuing overuse.

We really beat up those aircraft during Desert Storm and Desert Shield, and a combination of events that have followed. Disasters at home, peacekeeping operations like Somalia, and activities elsewhere have really put a heavy strain on those aircraft.

AIRLIFT PROGRAM

Mr. **Murtha**. It is interesting that you bring that up because we had the Transportation CINC here yesterday and we also had the project manager for the C–17. I said that because of the way things are going with the C–17, and the way the budget constraints are pressuring us in this Committee, it is going to be very difficult to come up with the money to build this aircraft.

I have given one of our people the task and Mr. McDade will ask somebody on the minority side to study this carefully.

I have said two a year won't do us any good or three a year. Let's look at either cutting this program and going in another direction to try to solve the problem or build at a cost effective rate.

I don't know what their recommendation will be, but I know that those pilots are going to fly the wings off of the C–141's and I am hoping we won't have to do something with the 141s in order to get by. I hope we can build the C–17s fast enough and find another way to get people overseas.

I also realize the unique situation in Saudi Arabia. If Saddam Hussein had come South when the 82nd Division was there or just the Marines, it would have been a much bloodier contest in the end. We would have paid heavily in casualties for that deployment.

I don't think any other potential enemy is going to make that mistake. I think they will hit very hard in the early stages of any deployment because they know that is where we would be the most vulnerable.

Saddam Hussein probably didn't believe that we had the resolve to attack him. I think the one thing we showed is that not only do we have the capability, we have the resolve and that is a big difference. We are so concerned about the morale, the equipment and the training that my recommendation to the Committee will be to deemphasize hardware and have an active duty force that is big enough with the training they need and with the enhancement they needed in order to get the job done.

There will have to be tough decisions if we continue to spend the money to deploy and if we don't pay for those deployments. It is an impossible situation.

I have said we can get by this year and if the tempo is reduced, next year. We are concerned that we are going to spend less money in training and, consequently, will not have the type of force that we need.

We have to keep the strategic deterrent because of the problems in the Soviet Union and the possibility of somebody firing a weapon, not inadvertently, but consciously, and we would have to be prepared to retaliate there. That is the first priority. After that, it is a question of what is the threat and then how much money we can afford to spend on that threat.

I have been working hard to keep us out of Bosnia because I think that would be a disaster and would increase the amount of money that we spend substantially.

So we see a very difficult time. I remember in the seventies and eighties we would go aboard a ship or to a base and all they would talk about was quality of life which was so bad and the shortage of maintenance of homes.

DEPLOYMENT SITUATION

We have taken care of a lot of that over the last few years but the tempo of deployment worries me as much as anything.

Give me an idea as to what percentage of your people are deployed from your unit during the year.

General Hoar. My situation is somewhat unique in the sense that I have almost no permanently assigned forces, that my forces essentially come from the Pacific Command and those forces in CONUS.

So it is a little difficult for me to tell you exactly, but we track a lot of this because the services are so committed to taking care of their people.

We have been able, in the Navy and Marine Corps, to maintain personnel tempo and operations tempo within the limits, but this is very much a zero sum game. As we see fewer carriers available in the future, those carriers are either going to be in the Pacific, Central area or Europe. There won't be enough to maintain three forward deployed.

FORWARD PRESENCE

Mr. Murtha. That is with 12 carriers?

General Hoar. If we go below.

Mr. Murtha. You have to have 12, as I understand it, in order to deploy three at that distance?

General Hoar. Yes, sir.

This is going to be a difficult decision and this is of course a military decision based on threat and what is going on. But you have a great deal of unrest in Europe. You certainly have unrest in the Central Region and clearly the Korean problem is a daunting one as well.

We have problems in all three areas. From the Central Region with no permanently assigned forces on the ground, we are forced to depend largely on naval forces for our presence and contingency response. So it is a little difficult.

We will work this out over time, but the problem is there as we start to go down. The Navy and Marines are staying within the optempo/ferstempo requirements by shifting assets and a cooperative effort. The essential flexibility of naval forces allows us to move pretty rapidly even when we see ambiguous warning.

Mr. Murtha. Does that mean deployment more often? One Marine unit in Somalia was away from home three Christmases and anticipated being away a fourth. Even though you are able to bring them back I assume they are spending at least six months at home and then going back?

General Hoar. Absolutely. One of the Marine infantry battalions that was in Somalia is also in the unit deployment cycle for deployment to the Western Pacific. So that battalion went for a couple of months and we withdrew them early and will deploy this summer to the Western Pacific.

The Air Force is using essentially a three-month rotation policy in ——— and that has allowed them a little bit more flexibility on things like F–15 and F–16 squadrons. By drawing on the total ACC capability throughout the CONUS, they have been able to spread the hurt around.

But F–4G, when you have only a few squadrons in the active force, it is more difficult. For the most part, they have been able from a personnel point of view to handle the kind of requirement.

In the Army, it has been mixed. An organization like 10th Mountain that has been in Somalia has been able to handle that as a deployment. The Patriot batteries ——— on the other hand, are doing a very fast turn and it has affected morale and reenlistments.

We have to come to a better solution for the Army in that regard. ———.

We have also done, as you know, periodic deployment of an Army battalion task force out of the First Cavalry Division in Texas to Kuwait, very successful, very well done by the Army.

My impression is that the First Cavalry can handle that okay, but again the problem is in smaller units, and low density MOSs. we are going to have trouble, I am afraid, over the long haul in Somalia. We made a commitment very early. We—Central Command—were in Somalia in order to make the U.N. part of this work. When the U.N. takes over there we are going to have to provide the kind of things that we can't reasonably expect the U.N. to do.

There are plenty of countries around the world that can provide light infantry to patrol streets, but very few countries that can provide logistics framework to support large numbers of people.

Our view is when the U.N. takes over, we will have 4500 people, 3200 of which would be logisticians, soldiers all, and many in very low-density MOSs. ———, and there is an effort on the part of the U.N. to perhaps ask us to provide extra people.

I am against it because what we crafted at the beginning was a combined logistics group that could provide overall command and control for a logistics effort countrywide to provide those items that are needed by everybody—food, water, fuel, construction material. The group would provide those kinds of things with the ability to build stove pipe so the Botswanian soldiers that have a particular requirement would have that stuff come through and we could distribute it to them.

In small fields in the Army and Air Force in particular, we are beating up our people.

Mr. MURTHA. Mr. Young?

Mr. YOUNG. Thank you, Mr. Chairman.

General Hoar, welcome to Washington.

General HOAR. Thank you, sir. Nice to see you again. Sorry to leave Florida, though.

C–17 AIRCRAFT

Mr. YOUNG. We have new airplanes that are going to be assigned to MacDill on a permanent basis. We hope that solves part of the problem on our runways and you were an important part of that decision at the Pentagon level so thank you very much.

The chairman talked to you about C–17s and other types of airlift.

When you mentioned how we had flown the wings off the C–5s and the 141s, are you hinting there may be something we need to do on the long lift capability as well as the C–17?

General HOAR. The C–17 will replace the C–141s and the C–130s, assuming that we buy them.

The C–5s are in the same category as the C–141 in the sense that we have used them so extensively during this period.

I believe that it is an operational tempo problem, probably susceptible to solution. The C–141, on the other hand, is an older aircraft that without some major changes in the way we do business, either a major upgrade or slowing down the operational tempo, will cause additional problems.

Mr. YOUNG. Would the C–17 be more of a priority for a Central Command type of activity rather than some major new effort regarding the C–5?

General HOAR. From my point of view, we need the C–17 capability. The C–141 replacement is key for me.

Now, the aspect of the C–17 that allows us to do some of the things we do with C–130's in intra-theater activity is also very important, but if you don't have the C–17, you don't know what can happen down the road in terms of what you are going to do to replace the C–130.

For example, in Somalia, the only airfield that we could put C–141s into were Mogadishu and Kismayu. We tried to move the 10th Mountain into Baledoogle, which was a Russian-built fighter aircraft field and we started to tear up the runway, the C–141 was too tough for it.

Every field we use for C–130s in Somalia could accommodate a C–17. That is another aspect. When we talk about Saudi Arabia, as the Chairman pointed out, we were talking about a country with enormous capability in terms of infrastructure.

The other end is a place like Somalia where there is virtually nothing. So there is an aspect of the C–17 in terms of intra-theater lift and being able to put big aircraft with a big payload into unimproved areas. But my judgment is the C–141 has a key problem and I am not sure what the answer is because of the large costs associated with C–17. If we don't take the step now we just push that problem further out in my view.

Mr. YOUNG. It is going to have to be done eventually.

General HOAR. Yes, sir.

TERRORIST THREAT TO WESTERN WORLD

Mr. YOUNG. I agree with that and I think most of my colleagues on the Committee agree that the capability is something that we are going to have to have and unfortunately there are some problems today, but maybe we can work around that.

A question about a different type of event, but it is in your area of responsibility. The latest arrests made in the World Trade Center bombing were made in Egypt and it was a Pakistani, I understand.

Can you tell us anything about that? Does that give us any indication that Pakistan may be lining up with some of the other terrorist nations?

General HOAR. I can talk in general about political Islam, which is a major problem in the world and then I would like to talk about Pakistan for a moment as well because I have some very strong feelings about Pakistan.

First of all, political Islam is going to be a serious threat to the Western world for some time to come. It is not monolithic, and not that every Muslim country extending from the Pacific Ocean to the Atlantic Ocean is necessarily moving in that direction.

However, what has happened particularly in the poor countries, ——— is countries have tried Pan-Arabism, socialism, and communism, and still people are dirt poor with no exceptions for future life. They are caught up in the idea that you can roll the clock back and live in a 7th century world in which Muslim culture and political power was at its zenith. It is not going to happen.

There are poor people that are very susceptible to this message and we are seeing it in every country in the Gulf. ———. Pakistan stood by us during the Afghanistan war. In my judgment, the beginning of the end of the Cold War began in Afghanistan with the withdrawal of the Soviet Union from Afghanistan. Pakistan would like nothing better than to be a friend of the United States. ———.

Within Pakistan, as in many of the other Muslim countries, there are significant numbers of people that are caught up in this political Islam.

It is a very dangerous arrangement and the solution is to support those moderate Arab countries, Muslim countries that are looking to democratize to make a difference in their countries.

Turkey, Egypt, Jordan, Pakistan are, I would hope, good examples. They are trying to create democracies within their countries. They have limited democracies today and they have very strong, well-organized Muslim political parties who are working within the framework of democracy to capture those governments and turn them into theocracies.

It is a dangerous situation and we have a role to play in that, in my view.

BAHRAIN SITUATION

Mr. **Young**. Did Bahrain seem to be very willing and proud to have public recognition that U.S. forces were there?

General **Hoar**. ———.

Today under the leadership of Sheik Issa, we have a fine relationship, a longstanding one. We have had Navy forces in Bahrain since the late forties.

Mr. **Young**. ———.

General **Hoar**. ———.

We put airplanes there for exercises ———.

Bahrain is a small country. The airfield is on the southern part of the island and it is very sparsely populated.

Mr. **Young**. Have you had an opportunity to see the results of the test of the Arrow system in Israel?

General **Hoar**. I have not.

Mr. **Young**. I read they have had very successful tests of the system. Have you compared it with the Patriot?

General **Hoar**. I have read apparently the same thing you have, sir, but have not seen any of the details on it.

Mr. **Young**. Thank you.

HORN OF AFRICA

Mr. **Murtha**. You told me you have 9,000 troops still left in Somalia?

General **Hoar**. Yes.

Mr. **Murtha**. When we were in Somalia, they briefed us and said Sudan was even worse than Somalia was. They have the same problems.

Have you seen the same problems with starvation as they had in Somalia?

General **Hoar**. I can characterize Sudan as being more like Bosnia. There is an ongoing civil war, the Bashir government which came to power as a result of a coup is a very fundamentalist Islamic Government that seeks to impose Sharia law on the entire country.

A man named Turabi, the intellectual leader of this movement, is in many ways perhaps the most important and powerful figure in the country. ———.

The government which is largely Arab and Muslim, in Khartoum is opposed by the black African citizens of that country who live in the South of Sudan. Some citizens are Christian and some animist. The major impediment to finding a political solution to that problem has been Sharia law and the imposition of Islamic law on non-Muslims in the southern part of the country.

Mr. **Murtha**. No pressure for us to intervene, the U.N. to intervene, or is there?

General **Hoar**. The difficulty is that at one time Sudan was a net exporter of food. This kind of civil war activity, of course, just as it did in Somalia, has prevented the normal course of agriculture in the country. The country, from time to time, of course has also had the problems of drought, but all this is exacerbated by the fact that combatants on both sides of the civil war have used food as a weapon to punish their opponents.

Having said that, there is significant starvation in Sudan. How you deal with that problem is almost as daunting as how you deal with the problem in Bosnia, because you have an ongoing civil war in a very hard country to get into support from a logistics point of view.

This is a far greater problem than Somalia. You have the same distance problem, seven to eight thousand air miles to get there, but access to ports and the ability to get into the southern part of the country is severely limited.

Our discussions about C–141s and C–5s start to become important again if you were to consider this sort of thing.

The answer in my view is the continuing pressure to try and stop the fighting. Then there are possibilities that you could do humanitarian work as well.

The ability to move in and do humanitarian work in the midst of a civil war is extraordinarily hard.

Mr. MURTHA. For instance, when I went to Sarajevo, the fellow running the U.N. operation said that if you think suffering is bad at Sarajevo, Somalia is much worse.

I had no idea that the President was going to decide just a few weeks later to go into Somalia. When we went to Somalia, we heard about the Sudan. It gets back to what I have been saying—we can't continue to deploy people and reduce the amount of money we have available.

As important as it may be when they make the decision, they have to consider the fact that we are depleting our resources so significantly. That is what worries me most.

Mr. Visclosky?

STRATEGIC LIFT

Mr. VISCLOSKY. Thank you. If the question has been asked before, I apologize, General. We have had a lot of questions about the C–17. There appears to be a consensus that it is a priority. If it is, that implies it comes before other things if we are to look for money to pay for the program.

Would you want to speculate where those moneys might come from?

General HOAR. It is very difficult for me to offer you the kind of decisions that need to be made by the Secretary and the Chairman, but it really depends on what we expect to do with our armed forces in the future.

As the Chairman indicated earlier, of course, our first requirement is to protect the United States against a nuclear attack.

Beyond that, our requirement, it seems to me at least, involves movement of forces over long distances to be able to meet either our vital interests in the case of the Arabian Gulf, or perhaps humanitarian interests in the case of Africa, although I could see a scenario some years in the future where we would have strategic interests in the Horn of Africa as well.

I think any scheme or priorities that you come up with has to give very high priority to the ability to move troops very rapidly to these parts of the world where we have significant interest.

Airlift in the Central Region is key because we have no permanently assigned forces there. My good friend, Norm Schwarzkopf was plagued by this problem through the summer and fall of 1990 and into the winter of 1991 in terms of how to get the right number of forces and the right priority to Saudi Arabia given almost perfect conditions in terms of infrastructure.

I would tell you that in my view in terms of my integrated priority list that I submit each year, and represent a warfighting point of view, most important to me are ———.

So the sealift problem that you deal with, the RO/RO ships, the C–141 replacements, and he C–17 are important. Amphibious ships and carriers are also important to me.

Those things in my view need to be high on the list of acquisition items that we are going to need in the future. We have a defense strategy today that is built on the possibility of ——— major regional contingencies, ———.

In every case there is a major requirement for strategic lift. My judgment is that in my particular region, the region for which I have responsibility, that strategic lift is more important than any of the others because of the long distance involved and the lack of forces permanently assigned there.

IRAN SITUATION

Mr. VISCLOSKY. Mr. Chairman, have we talked about Iran yet?

Mr. MURTHA. No.

Mr. VISCLOSKY. General Hoar, could you tell the Committee what level of funds the Iranians are expending on their arms build-up?

General HOAR. Yes, I can. Iran is now spending, in their five-year plan, $10 billion on arms acquisition, to the best of our knowledge. This major rebuilding program began in 1989 with the acquisition of MiG 29 fighters from the then-Soviet Union.

The aircraft were sold by the Soviet Union in exchange for hard currency. There were no barter arrangements on this as the Iranians have been able to do with other things like tanks and artillery pieces. ———.

They have taken over the first of what we believe will be three Kilo submarines from the Russian Republic. Despite our best efforts to shut that down, we have been unsuccessful. ———.

Mr. VISCLOSKY. ———.

What do you think their intentions are over the next decade or so?

General HOAR. First, to achieve hegemony in the Gulf. What is involved there is particularly the exclusion of the United States presence in the Gulf.

How will they achieve that? In my view, it will not be the same way Iraq did, with a direct military confrontation. ———.

Additionally, Iran is committed to political Islam throughout the Islamic world. We have seen it in Sudan. We see elements of it in support of terrorist organizations.

We see efforts to capture fledgling countries in Central Asia that were formerly part of the Soviet Union.

In places like Tunisia and Algeria where you have radical movements, we see political support for that. I don't think necessarily in this regard that Iran is necessarily interested in creating some sort of a super state throughout the Muslim world, but only is ideologically committed to the defeat of Western culture and Western kinds of institutions.

Mr. VISCLOSKY. In terms of their purchase of submarines, what type of threat does that pose to us in the short term, five years out, in the movement of oil?

General HOAR. ———.

Mr. MURTHA. If I understanding correctly those submarine actually are quieter than a nuclear submarine, very difficult to find as far as our anti-submarine capability.

General HOAR. You are absolutely right. They are diesel boats that are built specifically because they have the ability to move in close to shore areas, in close to continental areas, very quietly. ———.

Mr. VISCLOSKY. What would it take to close the straits down?

General HOAR. It is a narrow waterway, but you don't even have to close it down. If we agree that the price of oil on the international market ought to be $19 or $20 a barrel, the idea that the Straits of Hormuz were threatened would cause the price of oil, specifically the price of insurance, to go up. You create the problem that we had in the late 1980s during the Iran-Iraq War where we got into the business of escorting tankers to make sure that they were able to move inside the gulf. ———.

Mr. MURTHA. What time frame are you talking about there? ———.

General HOAR. The only piece of that that really doesn't exist today in some form or another is a fully capable fleet of submarines, which will take a couple of years. But in the meantime, I think Iran continues to move to a more threatening stance.

In my travels in the Gulf with the possible exception of Kuwait, all the leadership of other GCC countries, ———.

I talked to the Prime Minister of Israel and he said exactly the same thing, that the long-term concern was Iran. He pointed out that it would be the same thing that you have said, that it would be insidious, very quiet, not like Iraq at all. It would be completely different. As we withdraw military resources, they would build up theirs. It wouldn't take long for the Arab countries to recognize that we have neither the resolve nor the ability to respond.

This is why the continued naval presence in the Gulf is so important. My experience has been that the leadership of the moderate Arab countries in the Gulf look every minute for signals that will tell them whether or not we are still onboard or whether we have changed. There was great concern in the wake of Mr. Bush's defeat in terms of which way the policy would go.

I think the trip that Mr. Christopher made to the Gulf region as his first trip abroad and the people he talked to served in large measure to allay that concern. But the concern was very much there.

They watch how many ships are there and what we are doing and how frequently we operate. All of them operate under a domestic situation of significant popular belief that Western ideology, Western culture and the United States are at odds with what they want to have for their own lives.

Mr. **Murtha**. I remember when I visited with Mubarak during the Kuwaiti reflagging. I said, "How come you folks are so slow responding?" He said, "Because the United States is not a reliable ally."

Since the gulf war, we have sent a signal that we are reliable ———.

Mr. **Darden**. General, I want to follow up on some of the questions asked by my colleagues. We are in a closed meeting, are we not, Mr. Chairman?

IRAQ SITUATION

Mr. **Murtha**. Yes.

Mr. **Darden**. We had a discussion similar to this where Director Woolsey appeared before the Committee several days ago and he was most helpful. I want to follow up on some of the questions that the Chairman and Mr. Visclosky and Mr. Young have been asking you.

We talked about the proliferation of—the possibility of building these nuclear weapons in Iran, but first of all, let's look at Iraq. Have we completely dismantled their capability?

General **Hoar**. ———.

We, the United Nations inspection teams, have met a great deal of intransigence, in this regard. We believe, for example, there are probably still hidden sites we don't know about that are associated with the nuclear program. We know that there are ——— people in Iraq that worked on the nuclear program before the war.

Whatever we do, we will not take away the intellectual capability that exists there. Once the oil begins to flow again, that is all that will be necessary to get the money going.

We further face the problem of the International Atomic Energy Commission, an arm of the U.N., which has the responsibility for monitoring nuclear programs to make sure that they are in compliance with peaceful use or nuclear programs. ———.

I think that we will continue to see this problem in the future.

Mr. **Darden**. As you mentioned, once the oil starts flowing, then vast sums of money are available and on the international market now with the large number of nuclear warheads in the former Soviet Union and the large number of displaced personnel, I am sure that will create problems on the International market, which brings me back to another serious concern, and that is the Israelis. Have we not, for lack of a better expression, looked the other way where the Israelis and nuclear weapons are concerned? Which I think is a dangerous situation in and of itself. And with the Israelis having some capability for nuclear weapons, aren't we almost inviting the surrounding Arab countries to continue to try and develop a nuclear capability? Isn't it almost an invitation to them to do that?

General **Hoar**. ———.

Mr. **Darden**. How far is it away from the central region?

General HOAR. ———.

One can only speculate why they did that, but I think that your premise is probably true. Clearly Iraq and Iran, both of which are virulent anti-Israel countries, have a view that Israel is a potential adversary. I would not begin to say that the principal reason for their quest for nuclear weapons is Israel, but certainly that figures in the equation.

Mr. DARDEN. We are always talking about the prospects for war and the prospects for conflict. What are the prospects for a renewal of the conflict between Iran and Iraq based on your assessment and your best information?

General HOAR. Well, I think that Iraq and Iran will under normal circumstances always be in an adversarial relationship. In that part of the world, they are really the two countries that aspire to and have the capability of being regional powers by virtue of their size, their locations, their population, their wealth. Each of them has 10 percent of the world's oil reserves. Iraq has a very good agricultural capability. Iraq is a secular country with a well-trained work force, which includes large numbers of women. Iran was the same way before the revolution. Both countries have that capability, so there will always be a degree of adversarial relationship there unless there is some outside influence that would cause them to unite against a common enemy.

We were quite surprised during the Gulf War that they could come to accommodation even so briefly after such a bitter struggle that existed for 11 or 12 years.

I think we would always see them in some fashion being adversarial. Under normal conditions, the moderate countries of the Gulf would tend to align themselves with Iraq as an Arab country as opposed to the Iranians who although Muslim, tend to be Shiia rather than Sunni and are very arrogant in their views of Arabs in general and particularly regarding some of their neighbors.

So under different circumstances, you could foresee a fairly strong Iraq that was in some fashion aligned with the other Arab countries of the region.

Mr. DARDEN. One very brief question. You mentioned Iraq being a secular country. Certainly using the rhetoric of Saddam Hussein, they appear to be moving toward fundamentalism and away from secularism in the last war. Has that subsided or do you think that is a trend for the future?

General HOAR. I think it was a useful device to gain sympathy domestically and among certain other people within the Arab world. Again bear in mind that the majority of anti-U.S. feeling in that part of the world is along religious lines because of the perceived decadence of Western culture. So by appealing to those Muslims that hold those views that tend to be very fundamentalist in their outlook, he gained support.

One of the things of course that we have seen from Saddam Hussein is that his ability to control public opinion in Iraq in particular and to appeal to the man of the street in Arab countries in general has been very good. He is a much better molder of public opinion than he is a strategic thinker.

NUCLEAR BIOLOGICAL CHEMICAL PROGRAM

Mr. VISCLOSKY. You touched on the question of chemical weapons. Could you review for the Committee the countries in your area of responsibility that possess chemical and biological weapons, and what their status is?

General HOAR. Yes. Forgive me if when we review the record, if I have missed somebody, we will add it.

Beginning in the west, ———.

We were very concerned about that during the Gulf War, that Iraq could launch Scud missiles with biological agents in it. But we know that there has been a great deal of research and development done by Iraq.

The U.N. inspections—particularly those designed to find biological agents and the production capability—have been unable to find anything beyond the research and development end of that thus far. ———. But Iraq was probably closest.

With respect to missiles—which I really think I should probably throw in, although you didn't ask that question specifically, ———.

Mr. VISCLOSKY. Any other type of delivery system that we should be concerned about for chemical weapons?

General HOAR. The chemicals can be delivered by a variety of sources. In a tactical situation, they can be delivered by artillery. They can also be delivered by an aerosol spray from airplanes.

My guess is that given our ability to achieve air superiority, that is probably not a terrible danger, but the artillery against military forces on the ground would be a danger. ———.

Mr. VISCLOSKY. Anyone else in the region trying to develop chemical or biological agents?

General HOAR. Beyond the countries that I mentioned, we are unaware of any others.

Mr. VISCLOSKY. You seem fairly confident of your intelligence and your information.

General HOAR. ———.

Mr. VISCLOSKY. Thank you.

Mr. Skeen.

Mr. SKEEN. Thank you, Mr. Chairman. I apologize for not being able to get here any earlier. We have concurrent committee assignments going on. I think you have done an outstanding job.

I think one of the most sensitive and volatile areas we have in the world today is the Middle East and has been for sometime.

I have no questions. Thank you for your testimony.

Mr. VISCLOSKY. Mr. Young, do you have anything else?

Mr. YOUNG. We had a pretty good session here and I have a number of other questions. I think I will give it to you in writing.

General HOAR. Be happy to answer, Mr. Congressman.

Mr. YOUNG. I have some specific issues on specific weapons. I will give them to you in writing and you can respond for the record, if you would.

Thank you very much. I think we had an excellent meeting this morning, and I think the information provided to this Committee was very helpful, and stick with us on the C–17 or whatever we are going to do to provide that lift capability. We will work it out somehow.

Mr. VISCLOSKY. General, thank you for being here. We appreciate it very much. We will have other questions for the record. The Committee is adjourned.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

SOMALIA SITUATION

Question. General, could you give us an assessment of how the preparations are proceeding to transfer responsibility to the UN for security of Somalia?

Answer. The transition plan is on track. Although the transition is event driven rather than on a timetable, we anticipate turning over the last UNITAF Humanitarian Relief Sector to UNOSOM II forces around 26 April. UNOSOM II personnel will be in charge of day-to-day headquarters activities with UNITAF oversight by mid-April. The change of command from UNITAF to UNOSOM II will occur in May. The Joint Logistics Command, which the U.S. heads, is in place and operating with many activities such as contracting and communications well ahead of schedule. We are in the process of preparing the majority of U.S. forces for redeployment. The UN, with our help, is in the final stages of defining requirements for UNOSOM II forces and identifying potential contributors. Our focus remains to ensure the success of UNOSOM II and associated UN operations in Somalia.

Question. How about your candid opinion on the UN's potential for success in terms of the long term rebuilding of Somalia?

Answer. There is no practical alternative to the United Nations in the rebuilding of Somalia and it is in the United States national interest to see the UN succeed. It will not be easy; the UN has never before taken on a task of such scope and complexity. The collapse of Somali political, social and economic infrastructure is virtually complete and the task of reconstruction a daunting undertaking. Nevertheless, we have seen a sincere willingness on the part of UN officials to adapt and to make the effort required. A distinguished American officer, Admiral Jonathan Howe (Retired), is in overall charge of UN efforts as the Secretary General's Special representative. The US-led UNITAF is transitioning smoothly to the newly created UNOSOM–II. A limited American contingent will provide continuity and support for the competent and experienced Turkish Lt. General Cevik Bir who has been selected to command UNOSOM–II.

JORDAN SITUATION

Question. I understand we have had some exercise interface with the Jordanians since the completion of Desert Storm. How would you assess our potential for getting back to a Pre-Gulf war relationship with Jordan?

Answer. ———.

V–22 PROGRAM

Question. General, let me switch to hardware for a moment, now that the V–22 is an officially requested and recognized program, could you comment on how important this capability will be and whether it would have made any difference in Desert Storm?

Answer. The capability of moving cargo and personnel to remote sites throughout the battle area is crucial to Maneuver Warfare. The V–22 will replace the aging medium lift CH–46E in the Marine Corps and expand our radius of action while enhancing maintenance availability. The V–22's range (700nm) and payload capability (24 combat troops or 6,420 pounds internal/10,000 pounds external) will revolutionize helicopter employment in the future. USAF and USN uses for the V–22 would also improve existing capabilities in CSAR, sea-based logistics, and command and control missions.

The largest impact on Desert Shield and Desert Storm would have been the self-deployment capability of the V–22. During the initial force build-up in Saudi Arabia, strategic lift became the limiting factor for force closure. Self-deployment of the V–22 into theater would have freed up valuable strategic lift assets. Additionally, the V–22's state of the art technology and maintainability features would decrease maintenance requirements in the harsh desert environment.

Once in theater, the V–22 could have provided continuous assault support and reduced the requirements for forward operating locations while operating from their bases in Saudi Arabia and afloat. The V–22 will move more, farther and faster than conventional helicopters. This will result in a quicker build-up of combat power and reduced enemy counter-force reaction time.

CSAR capability will be similarly enhanced if the aircraft is used in that capacity. Its range, defensive capability, and dash speed will enable it to keep pace with escort aircraft and, if necessary, probe deeper and remain longer in hostile territory.

AV–8B PROGRAM

Question. I've been told by some of the participants in Desert Storm that when the Marines needed close air support, that the fastest response times were almost without fail provided by the AV–8B and that these times were frequently less than ten minutes. Could you confirm this? And also, this committee has supported for the last two years, funds to allow the Marines to upgrade their early model AV–8Bs to night capable aircraft with the new engine. So far this program seems to be stalled. Do you have an opinion on whether we need to do an AV8B Remanufacture program?

Answer. During the ground assault phase of Operation Desert Storm, the Marine Corps relied heavily on its fixed wing assets for close air support. Of those, the AV–8B was planned for and utilized at a surge rate of 3.0 sorties per aircraft per day during the 100 hours of ground combat. In addition, the Harrier was forward based 35 NM from the Kuwait-Saudi Arabian border. The resultant transit time (5 minutes), coupled with surge rate operations and low turn around times, provided one section of AV–8B aircraft every 7.5 minutes to the Marine Air-Ground Task Force (MAGTF) Commander for close air support during the ground assault. Limited fuel capacity and on-station time made immediate target assignments a must when the aircraft arrived in the battle area while other aircraft could be placed in stand-off orbits until required.

Although the AV-8B served as an exceptional weapon system with unique, one-of-a-kind capabilities, airfield to target response time is but one measure of an effective CAS system. Each of the CAS platforms—e.g., AV-8Bs, F-15Es, A-10s, A-7s, attack helicopters, etc.—brought special capabilities to DESERT STORM, and its was the combined synergistic effect of the range of these capabilities that was so productive. ———.

MARITIME PREPOSITIONING SQUADRONS

Question. General, I understand that we off loaded some of our MPS Ships for Desert Storm. Could you give us some insight as to how much of these stocks were reusable and how far along we are towards reconstituting this important capability?

Answer. We used three of the Maritime Prepositioning Squadrons (a total of 13 ships) during DESERT STORM. Each Squadron carries equipment and 30 days sustainment for a Marine Expeditionary Brigade of 16,500 personnel. This includes vehicles, ammunition, rations, medical supplies, fuel, and water. The majority of the major end-items employed during DESERT STORM were reusable, but predictably required maintenance and necessary refurbishing. ———.

JOINT INTELL SITE

Question. General, I understand your new Joint Intelligence Site is now in use. Could you comment on how well it is meeting your needs?

Answer. ———.

MAC DILL AIR FORCE BASE

Question. General, last year you testified about the importance of the runways at MacDill to your ability to travel and that of the Special Operations Command. Fortunately, the Department has seen the wisdom of keeping those runways and has even reversed its decision to relocate the Joint Communications Support Element. Isn't it much more logical to keep the JCSE at MacDill now that there will be an active runway there?

Answer. Absolutely. The primary reason JCSE was to move to Charleston was because of the 1991 decision to close the runways at MacDill AFB. Since this is no longer the case, JCSE does not need to move. The Air Force estimates a cost of approximately $26 million to construct facilities for JCSE at Charleston AFB. This is now unnecessary since JCSE has excellent facilities at MacDill AFB. Also, those costs do not include movement of 500 personnel and family members to Charleston. Furthermore, moving JCSE will have a readiness impact during the move. I agree JCSE should remain at MacDill AFB.

Question. The other part of the equation is leaving the Reserve unit at MacDill and converting their mission to KC-135R tankers. How will that mission fit in with what you need the runways for?

Answer. The presence of a tanker squadron at MacDill will have no impact on CENTCOM need/use of the runways.

Question. What is the range of costs it would take to relocate HQ USCENTCOM to another Air Force base?

Answer. The estimated cost of relocating HQ USCENTCOM to another Air Force base is approximately $185 million. This estimate is based on a USSOCOM study developed for the FY91 Congressional BRAC. The number of personnel and support facility requirements at HQ USSOCOM is similar to HQ USCENTCOM. Assumptions are based on the SOCOM study plus the need for dual HQ locations for a two year period, a new Joint Intelligence Center (JIC) facility, and the use of FY95 inflation factors. The following is breakout by major category of the cost estimates for the HQs relocation:

	In thousands
HQ Facility (includes planning/design)	$70,740
Dormitories (140 personnel)	3,684
Communications & Computers	36,744
Intelligence Functions	46,652
Permanent Change of Station costs	8,250
Movement of Equipment	109
Furnishings	5,995
Classified Destruction Equipment	207
Generators/Uninterruptible Power Source	490
General Officer Quarters	2,747
Dual HQ ($5M per Year)	10,000
Total	185,618

If HQ USCENTCOM is to move to another location, it would assume MacDill AFB, FL would be closed and the total cost of relocating all affected commands (two unified commands, two USCENTCOM component commands and a JCS command element) would increase significantly.

REGIONAL ISSUES

Question. Has CENTCOM changed the security procedures in the region in view of the marked increase in training of Al-Quds terrorists in Iran specifically for operation in the Persian Gulf area?

Answer. ———.

Question. Iran and Pakistan have embarked on a major joint program to vastly expand their weapon industries for both modernization of existing arsenals and the production of new major weapon systems. Their declared objective is to increase the size of their armed forces over the next few years. How will that impact your planning in the Region?

Answer. ———.

Question. Iran has already begun to build a blue water navy, relying on major acquisitions from the PRC and Russia. What will be the impact on our ability to reach the Persian Gulf?

Answer. ———.

[Clerk's note.—End of questions submitted by Mr. Young. Questions submitted for the record and the answers thereto follow:]

COMPENSATION FOR MILITARY OPERATIONS

Question. Observations have been made that the men and women in our armed forces currently lose a portion of their pay when they are deployed on operations like RESTORE HOPE, DESERT

SHIELD, and DESERT STORM. Could you give the Committee your views on this situation?

Answer. Most military personnel deployed to operations such as RESTORE HOPE, DESERT SHIELD, and DESERT STORM have a small increase in pay, a few may see a small decrease. The actual dollar amount varies according to the rank and circumstances of the individual.

The only portion of the servicemember's pay that is lost when deployed on such operations is Basic Allowance for Subsistence (BAS). For enlisted members who receive BAS allowance, this is a loss of $6.65 per day, $199.50 per month for a thirty day month. However, meals are provided at no cost to the servicemember. Officers are paid BAS at the rate of $139.39 per month. On deployments such as these, meals are provided to these officers, and $4.75 per day or $142.50 per month is collected from their pay. This is a loss of $3.11 per month. For DESERT SHIELD and DESERT STORM an exception was granted and the daily collection rate was equal to the daily BAS rate, and officers saw no loss.

There are three possible increases to the servicemember's pay. For members with dependents, Family Separation Allowance (FSA) will be paid at the rate of $2.50 per day, $75.00 per month. This is payable after thirty days of separation, but is retroactive to the first day of separation.

If a servicemember performs duty any part of a month in a designated Area of Imminent Danger, such as in Operations RESTORE HOPE, DESERT SHIELD, and DESERT STORM, the servicemember will earn Hostile Fire Pay/Imminent Danger Pay (HFP/IDP) at the rate of $150.00 per month.

For enlisted members only, who are not aboard a ship, Foreign Duty Pay (FDP) accrues at the rate of $8.00 to $22.00 per month, based on the servicemember's pay grade.

Basic pay, Basic Allowance for Quarters (BAQ), and Variable Housing Allowance (for members entitled to it), as well as any special pay that the member receives remain unchanged.

Additionally, for any month in which members qualify for Combat Zone Tax Exclusion (CZTE), enlisted members will have no Federal Income Tax Withholding (FITW) and no federal tax liability. Officers will have no FITW, and no federal tax liability on the first $500.00 that they earn. This further increases the monthly disposable income of these servicemembers, in effect increasing their pay.

Question. What changes have taken place within your command concerning the tempo of operations?

Answer. Compared with our OPTEMPO prior to Operation DESERT STORM, we have experienced a dramatic increase in operations. In addition to a continuous humanitarian assistance mission in Somalia, we have been enforcing UN sanctions with the no-fly zone over Iraq and our Maritime Intercept Operation, and conducting an aggressive exercise and training program.

Question. Have these changes in OPTEMPO been matched by a similar change in resources?

Answer. We have received resource increases for intelligence and special operations. DIA has reallocated assets and given CENTCOM 121 additional manpower billets for a new Joint Intelligence

Center (JIC). In addition, the FY 93 DoD Appropriations Bill mandated increases in special operations forces headquarters manning.

However, resources have not increased in other areas. Unless additional resources are allocated to USCENTCOM, we will experience substantial shortfalls in the next 2–5 years which will impact our ability to sustain our current OPTEMPO.

Question. How are you doing financially in meeting your day-today obligations in the AOR?

Answer. CENTCOM is dependent on the Services to provide all forces and virtually all funding for operations in our AOR. Service budgets support a level of effort for normal daily operations. They do not include funds for extended contingency operations such as RESTORE HOPE and SOUTHERN WATCH. In such instances, the Services must absorb the costs of contingency operations unless they receive additive funding or reimbursement.

Question. What is the status of establishing a forward USCENTCOM Headquarters within your AOR?

Answer. There is currently no effort to establish a forward headquarters within the AOR. Current levels of forward presence activities and combined exercises provide satisfactory theater presence and commend and control. Recent operations such as RESTORE HOPE and SOUTHERN WATCH demonstrate the ability to establish a subordinate headquarters in the AOR while USCENTCOM remains at MacDill AFB. During operations DESERT SHIELD/STORM we demonstrated the capability to move our headquarters into the AOR. When a forward headquarters is needed again, we will deploy as we did during DESERT SHIELD/STORM.

SOMALIA SITUATION

Question. As you know, various members of this subcommittee and some other members of Congress, conducted an inspection trip to Somalia in January. I have a number of questions on the situation in that troubled country. Our major concern on that trip was the fact that the U.N. was not taking appropriate actions to take over the U.S. role. What is the current situation regarding the U.N. "running the show" in Somalia?

Answer. U.N. Security Council resolution 814 of 26 Mar 93 authorizes the mandate for the expanded UNOSOM, UNOSOM II, for an initial period through 31 Oct 93. Lt Gen Bir of Turkey has been appointed as the UNOSOM II commander. A target date of 1 May 93 was set for transition from UNITAF to UNOSOM II control. Actual transfer will probably be a few weeks later than that. Most of the Humanitarian Relief Sectors (HRS) are relatively stable and under the control of UN forces which will remain in place as elements of UNOSOM II. U.S. troops are continuing to withdraw. After transfer of command to UNOSOM II, the only U.S. forces remaining will be those assigned to the UNOSOM II staff, logistics support units, and communications support. Also remaining under U.S. control but in direct support of UNOSOM II will be a Quick Reaction Force (QRF) and intelligence support. The U.N. currently has 15 nations planning to commit forces to UNOSOM II besides the United States.

Question. What level of U.S. troops do you project will still be in Somalia when the UN assumes command?

Answer. The projected U.S. strength after the UN assumes command will be slightly under 4,000 personnel.

Question. What "mix" of U.S. troops—i.e., combat, engineers, etc.—do you anticipate will be part of the UN contingent?

Answer. The "mix" of U.S. personnel in support of the UN operations will be approximately 1,200 in the Quick Reaction Force (combat) and approximately 2,700 in Logistics Support elements. The U.S. contribution will continue to draw down as the UN assumes increased responsibilities in Somalia.

Question. What is the current situation regarding the relations among the various clans in Somalia?

Answer. ———.

Question. What are we doing in concert with the U.N. to create a stable environment and provide long term security for Somalia?

Answer. We are currently resolving the security situation in Somalia, both long- and short-term, through a concerted political and military effort. On the military front, UNITAF has met objectives which reduced levels of violence and limit capacity for future violence. Due to our actions, food is no longer a significant weapon. Security in relief areas under UNITAF control has been dramatically improved through programs to confiscate small arms, place heavy weapons in cantonments and destroy captured weapons and ammo dumps when they are discovered. Also, the Somali auxiliary police force, formed by the Somalis with U.S. and UN support, is having great success at policing the streets of the major population centers in UNITAF's AOR. UNITAF has obtained UN funding for, and assisted in, selection of the initial group of confinement magistrates to serve in Mogadishu. UNITAF is currently accomplishing a seamless transition to UNOSOM. These military actions fully support the political strategy of reducing the military element of power allowing the traditional political and economic elements to reemerge.

Question. What is your prediction as to what will occur in Somalia when foreign military forces withdraw?

Answer. The United Nations' task is long-term and extremely difficult. Significant advances have already been made in restoring a semblance of civil order and reducing the level of human suffering in Somalia. However, the obstacles to national reconciliation are daunting. ———.

Question. What is the longer term outlook for a stable Somalia emerging without the presence of foreign military forces?

Answer. ———.

Question. Describe to the Committee the "lessons learned" from Operation Restore Hope from your perspective.

Answer. This was a large coalition humanitarian relief operation creating complex legal and logistical challenges. Without U.S. leadership, this operation would not have been possible. The importance of U.S. leadership was highlighted when dozens of countries volunteered to help only after the U.S. committed to the operation.

Other lessons learned reinforced those learned from Operations DESERT SHIELD/DESERT STORM. Reliance on support from afloat and ashore prepositioning in the region, need for increased readiness of the Ready Reserve Fleet (RRF) to support sealift, and requirement for airlift and an enroute support structure were again validated. The need to identify and deploy early the intelligence structure and activate reservist early to support the operation were also reconfirmed.

Question. What have the casualties been thus far for U.S. forces serving in Somalia?

Answer. As of 25 March 1993 for U.S. forces there have been four deaths directly related to the mission and three other types of deaths (1—suicide, 1—drowning, 1—vehicle accident). There have been 15 mission related injuries, and 302 non-mission related injuries. These injuries and additional illnesses resulted in a total of 347 medical evacuations.

Question. When I was in Somalia in January, the only request I received from the troops was to see if I could help them get newspapers and other reading materials. This request was conveyed to your staff but I was disappointed when it took almost an additional three weeks to get newspapers in country. Why did it take so long? Why didn't we just send the *Stars & Stripes* from Europe? What newspapers do the troops receive now? Why? How often?

Answer. During the early stages of Operation RESTORE HOPE, we concentrated on ensuring the troops had the essential items they needed to do their job. Once those needs were satisfied, we turned our attention to morale and welfare items, including providing reading materials. The commander in the field decided to accept USA Today's offer of free newspapers, and 1,000 copies of each issue are currently being airlifted to Somalia from Dover AFB, DE. In addition, the troops are receiving whatever publications they desire through the extensive postal system we established for Operation RESTORE HOPE.

IRAQ SITUATION

Question. What is your assessment of Saddam Hussein's outlook for political survival?

Answer. ———.

Question. The U.S. is enforcing no-fly zones in northern Iraq and southern Iraq. Put in perspective for the Committee:

The size of the no-fly zones;

The number of flights needed to enforce these no-fly zones;

The strain that the enforcement of the no-fly zones places on our forces in the area;

The extent to which Iraq forces have violated the no-fly zones.

Answer. ———.

Question. What is the current condition of the Iraqi economy, and how effective is the Maritime Intercept Program in terms of enforcing the embargo?

Answer. ———.

Question. What financial resources does Iraq have to continue to procure goods from abroad during the ongoing oil embargo?

Answer. ———.

Question. What is your assessment of the capability of the Iraqi armed forces at this time and what threat does it pose to the region?

Answer. ———.

Question. To what extent is the embargo bringing a deterioration of their military equipment because of a lack of parts?

Answer. ———.

Question. What is your assessment of the impact of the Persian Gulf War and its aftermath on Iraq's attempt to develop nuclear and chemical weapons and the ability to deliver such weapons?

Answer. ———.

Question. Comment in general, and provide details for the record, on the status of the U.N. Special Commission Teams in Iraq which are inspecting nuclear and chemical weapons programs. What cooperation, or lack thereof, are they receiving from the Iraqi government?

Answer. ———.

KUWAIT SITUATION

Question. What was the cost of rebuilding Kuwait?

Answer. According to the State Department, the total cost of rebuilding Kuwait is estimated at between $20 to $25 billion. U.S. companies played a major role in the reconstruction effort. U.S. exports to Kuwait from March of 1990 up to September of 1992 totalled over 2 and a quarter billion dollars. Reconstruction of the Kuwaiti oil sector is well ahead of schedule. Kuwait's oil production is now limited to 1.6 million barrels per day by the current OPEC agreement. Reconstruction in other sectors is now reaching a point where it is blending with normal civilian construction.

Question. Roughly how many land mines did the Iraqi forces put in place in Kuwait and what is the status of the program to remove them?

Answer. Kuwait suffers from an uncleared land mine problem of massive proportions. Iraqi forces laid approximately 8.5 million land mines in Kuwait. At present, uncleared minefields are scattered throughout the country, but are concentrated in the southern part of the country in what is mostly sandy desert making clearance difficult. Minefields crisscross oil fields, roads, and other markers. According to EOD contractors, the Iraqis laid a number of minefields parallel to power lines as well. Mineclearing efforts have removed/destroyed 1.2–1.5 million mines leaving approximately 7 million mines uncollected.

Question. Describe to the Committee the extent to which Kuwait is building up its armed forces in the aftermath of the Persian Gulf war.

Answer. ———.

Question. What commitments do we currently have with Kuwait?

Answer. In the U.S.-Kuwaiti Defense Cooperation Agreement signed in September 1991, both countries agreed to close defense and security cooperation in order to enhance the ability of Kuwait to deter threats to its sovereignty and territorial integrity. Additionally, the United States insists on full implementation of all relevant UN Security Council Resolutions regarding the Kuwaiti border, Kuwaiti property, and compensation for Kuwaiti war claims. U.S. support is demonstrated continuously by the enhanced presence of U.S. Armed Forces in the Gulf; a robust, multi-lateral exercise program; and U.S. equipment stored in Kuwait.

FORWARD PRESENCE

Question. What U.S. forces currently remain within the Gulf Region?

Answer. ———.

U.S. Navy assets in the region include approximately 12,800 personnel aboard 23 ships. The Maritime Intercept Operation (MIO) Task Group in the North Red Sea consists of four ships with 1,110 personnel assigned. A second Task Group assigned to the Arabian Gulf, Gulf of Oman, and the North Arabian Sea also has four ships and 1,260 personnel assigned. A third Task Group consisting of four ships and 800 personnel is operating in the Gulf of Oman. A small Task Force is operating in the Arabian Gulf with one ship and 265 personnel assigned. The largest Task Force, operating in the Arabian Gulf, Gulf of Oman, and the North Arabian Sea, consists of the carrier Nimitz and nine ships with 8,500 personnel assigned. There are 73 aircraft assigned to the Nimitz. NAVCENT located ashore in Bahrain has 354 personnel assigned.

The Navy and Marine Corps Amphibious Ready Group, when present, consists of four ships, 29 aircraft, and 5,769 personnel.

Question. How many U.S. Patriot batteries are within your AOR (Area of Responsibility) and to what extent do countries in the region want to expand or enhance their own capabilities to operate Patriot batteries?

Answer. ———.

Question. What arrangements have been made regarding pre-positioning equipment in the Gulf Region in the wake of the war?

Answer. ———.

ARMS SALES

Question. An enormous amount of arms are present in the Middle East. For example: Tanks, 25,000; combat aircraft, 4,200.

Large scale arms sale are also proceeding in the region.

What is the approximate level of arms sales in the region?

Answer. ———.

Question. In May of 1991, then President Bush announced a plan which, in part, attempted "to restrain destabilizing conventional arms buildups in the region". What is your perspective on the outlook for restraint on the size and scope of the longer range arms buildup in the Middle East?

Answer. ———.

[Clerk's note.—End of questions submitted for the record.]

THURSDAY, APRIL 1, 1993.

COMMANDER IN CHIEF, UNITED STATES EUROPEAN COMMAND

WITNESS

GENERAL JOHN M. SHALIKASHVILI, U.S. ARMY, COMMANDER IN CHIEF, UNITED STATES EUROPEAN COMMAND

INTRODUCTION

Mr. MURTHA. The Committee will come to order. Today we welcome General John M. Shalikashvili, Commander in Chief, U.S. European Command. EUCOM's area of responsibility includes 82 nations which are undergoing massive changes with the end of the Cold War.

The Committee will receive EUCOM updates on: the evolving security environment; the EUCOM Force structure and the draw down progress; resource priorities; and NATO's role and infrastructure.

General, welcome to Washington. I know you are going through a challenging year in your command. I don't think there is anybody better who could be in command of NATO and the American forces in Europe, because of your broad experience, not only your military background, but also your political expertise.

I have talked to the President a number of times about my concern of going into Bosnia. You and I have talked a number of times here and in Europe. I hope that we are not moving in that direction. I made recommendations to the President that I hope he will follow.

If you would just go over the general situation. We have had two readiness hearings, one on spare parts and one on general readiness, and also a hearing on the C–17. If in your conversations you would just talk about readiness, what is going on, the amount of money you have available, the morale problem, and those types of things, because I have told the Secretary of Defense and the President that we could not do a Desert Storm operation today. A year from now it could be even worse.

I see readiness slipping. I see quality of the troops, and a propensity to enlist—the things that point towards a hollow force—being of great concern. We are interested in how many people you need in Europe. I have to assume a corps is what is necessary.

We appreciate your advice, counsel, and recommendations about the forces under your command, and also the intelligence situation in that sector of the world.

General Shalikashvili, your complete statement will be inserted in the record. Please summarize it for the Committee.

SUMMARY STATEMENT OF GENERAL SHALIKASHVILI

General SHALIKASHVILI. Thank you very much, Mr. Chairman. I really appreciate the opportunity to be able to appear before your Committee. With your permission, if I could just say a word or two about the issues that you raised, how I see where things stand in Europe, and the direction we are heading.

I promise to spare you any reference to cliches about how far we have come in such a short time. You have shaped history, so I won't be presumptious. Although we don't quite understand perhaps yet fully the magnitude of the change that we have gone through, we sense that we are in a watershed period, and that 1993 could have well been a key year that will set the azimuth for the whole Trans-Atlantic region as far as security and well-being of that region is concerned.

I believe it is important that we recognize that Russia is key. While we have a host of insecurities and problems ongoing in the European region, Russia is where the main event is ongoing. I think how President Yeltsin, the reformer and the Supreme Soviet Parliament, resolves that issue and what role the military takes and specifically General Grachev, the Defense Minister, how they approach the issue, will have a key impact on whether we approach this next century as a century of peace, hope, and opportunity or as a century of new tensions, unknowns, and instabilities.

The other thing that is key in Europe is how the U.S. will resolve, the debt, the economy, the infrastructure, and its responsibility as a world leader. I am convinced that how we handle that in 1993 will really decide whether the U.S. stays as part of the Europe-Atlantic partnership and whether the U.S. remains as a European power.

I will tell you another thing that has an important impact in my judgment making 1993 very key is how Denmark and the UK move towards Maastricht. It is in that sense this year that we will decide whether Europe will continue in the direction of unity or whether we will begin to see the first turn towards nationalism and the problems that brings with it.

I think hanging like a dark cloud over all of this are the events unfolding in the former Yugoslavia. In the days and months ahead, how the Alliance deals with the tragedy in former Yugoslavia, the spillover and the widening of the conflict, and how we deal with the Kosovo and Macedonia issues will decide whether the Alliance will be able to remain as a relevant security organization or whether it will wither and become as many of the previous security organizations that have not measured up to the times.

Clearly, this year NATO plays a critical role. I would say that no collection of bilateral agreements, no economic linkage or anything can tie the U.S. to Europe like the Alliance can. It is the Alliance and NATO, that in my judgment, forms the framework for our influence and our leadership in Europe.

And I think you will agree with me that it is through NATO that the U.S. is a European power and it is—despite the fact that we don't own or we don't covet a single square inch of European territory. It is perhaps because of that that the Europeans so readily accept us as a leader of Europe. But I think in turn, U.S. leadership makes NATO possible and I think you and I have talked about this before.

I don't know whether that is because of the way we structured the Alliance or because through 40 years we developed a set of procedures that NATO only works when the U.S. is prepared to lead. But we have had in the last few months a perfect example of the ability of the Alliance to do something or its inability to do something depending on the degree of involvement by the U.S. But I am convinced that we can lead in Europe through the Alliance only because we maintain in Europe sufficient, credible forces forward deployed on the European Continent.

So let me answer, if I may, then the issue that you raised as to how many forces should we have there. I think that when you review that today, we have 173,000 troops in Europe, by the end of fiscal year 1994, we are scheduled to go down to about 132,200, and then, in accordance with the wishes of Congress by 1996, to go down to approximately 100,000.

My judgment is that that is about right providing we stay on a smooth glide path and, secondly, that we agree that because of all the uncertainties and all the tensions and all the instabilities in the European theater that we take each year to very carefully reevaluate what it is that we need and what it is that the security situation dictates.

Why do I say that eventually going down to approximately 100,000 is all right when my predecessor, whom I respect deeply, last year felt very strongly that 150,000 was the right number?

First, I think we agree fully that it is not just a number, but it is what you package into the number that is the key. I happen to believe that we maintain our forces in Europe for two reasons.

They are there to give the U.S. the ability to act unilaterally in crisis when the U.S. chooses, and we are there as a visible symbol of our support of the Alliance. I believe in both cases you need a certain structure, not just a structure that sits there and is only ready to accept reinforcements, but a force structure that has the capability to participate when the U.S. chooses for it to participate in crisis management.

That means you have to have on the Army side, a corps structure, and you have to have the requisite air and maritime forces in the Mediterranean to provide forward presence. For the Alliance, you need credible forces, so the Alliance can look at it and say, yes, this isn't just one force ready to open the key facilities in case reinforcements come. They are capable and can interface with us in training or if we need to go together to do something, to do so.

Why did General Galvin, last year, say we need a corps within the 150,000 range? Because he envisioned that full corps would be stationed in Europe and for that, in fact, you need a force structure that together with the Air Force and the Navy calls for 150,000.

I think by 1996 perhaps the times will be such we will be able to still retain a corps structure in Europe, but pieces of that corps would be located in the U.S. That is an example, in a division where we have three brigades, you would retain the division headquarters, division troops and two brigades in Europe but you would station one brigade in the U.S.

In a corps, too, you retain in Europe, all the pieces that you need for daily training or to deploy; the artillery, attack helicopters, engineers and intelligence, but you could have some pieces back in the U.S. Then, if you have to deploy rapidly, you have sufficient forces to make your initial deployment while you fly the rest of it forward. Everything that you have in the U.S. would keep its equipment prepositioned in Europe.

Whether, in fact, the security situation would be such that you no longer need that full corps forward deployed, I think we will see as we move towards approximately 100,000. But I am of the opinion that it is a prudent course to be on now providing we agree that as we watch the security situation, we will reevaluate it each year.

But I must tell you, Mr. Chairman, that number is only one side of the coin. The other one is quality. And we must ensure that we have the resources to make certain that those young men and women are the best trained, the best taken care of, the best lead soldiers we have ever put in an American uniform and that the families are properly taken care of.

In that respect, you asked me for my view on what our ability to do that is. I think that I am experiencing worrisome shortages in the area of resources to take care of soldiers in the same way we did just a few years ago; that is, to ensure that they have the same sorts of quality of life.

You are well familiar with the numbers, but in 1993 alone, we have an O&M shortfall in the Army forces alone of $578 million. Now, you know that a hefty chunk of that has to do with returning equipment from Europe. But even setting that aside, there is a sizable shortage in our accounts to take care of soldiers. It becomes an issue of ensuring that they stay trained, that the garrisons are maintained and that the quality of life is maintained.

With such a large shortfall it is very hard to not cut into one of those three that I just mentioned. My concern is that next year it will be about the same or even a little worse. So I do express to you my concern about the azimuth we are on in Europe on O&M funding. I am also certain, and I hope you agree with me that for American's sake and for the sake of the soldiers, sailors, airmen and marines deployed in Europe and their families, we will, in fact, be able to provide them the kind of living conditions and the kind of support so they can train and make sure that their kids can go to child development centers and other community support activities. I think you will agree that we owe it to them. We don't know what we are going to have to ask of them tomorrow.

As you look at Europe, there are plenty of places where they could find themselves overnight. I thank you for letting me make a statement.

[The biographical sketch and statement of General Shalikashvili follows:]

RESUME OF SERVICE CAREER

of

JOHN MALCHASE DAVID SHALIKASHVILI, General

DATE AND PLACE OF BIRTH 27 June 1936, Warsaw, Poland

YEARS OF ACTIVE COMMISSIONED SERVICE Over 34

PRESENT ASSIGNMENT Supreme Allied Commander, Europe, Supreme Headquarters Allied Powers Europe/Commander in Chief, United States European Command, APO AE 09705, since June 1992

MILITARY SCHOOLS ATTENDED
The Field Artillery School - Advanced Course
Naval Command and Staff College
United States Army War College

EDUCATIONAL DEGREES
Bradley University - BS Degree - Mechanical Engineering
George Washington University - MS Degree - International Relations

FOREIGN LANGUAGE(S) German, Polish

MAJOR DUTY ASSIGNMENTS

FROM	TO	ASSIGNMENT
Aug 58	Oct 58	Student, Basic Combat Training, Company B, 2d Battalion, 3d Training Regiment (Basic), United States Army Training Center, Engineer, Fort Leonard Wood, Missouri
Oct 58	Jan 59	Student, Advanced Individual Training, Battery B, 3d Battalion Artillery Training Command, United States Army Training Center, Fort Chaffee, Arkansas
Jan 59	Jul 59	Student, Officer Candidate School, Headquarters Battery, United States Army Artillery and Missile Center, Fort Sill, Oklahoma
Jul 59	May 60	Forward Observer, later Platoon Leader, Mortar Battery (105 mm), 1st Brigade, 9th Infantry, Seattle, Washington
May 60	Feb 61	Forward Observer, Headquarters Battery, later Assistant Executive Officer, Battery B, 2d Howitzer Battalion, 15th Artillery, Seattle, Washington
Feb 61	Apr 63	Instructor, Air Defense Artillery, later Guided Missile, and later Senior Instructor, Administration and Operations Branch, High Altitude Missile Department, Academic Organization, United States Army Air Defense School, Fort Bliss, Texas
May 63	Dec 63	Student, Artillery Officer Advanced Course, United States Army Air Defense School, Fort Bliss, Texas

JOHN MALCHASE DAVID SHALIKASHVILI, General

MAJOR DUTY ASSIGNMENTS

FROM	TO	ASSIGNMENT
Dec 63	Dec 64	Staff Officer, Plans and Operations Division, G-3 (Operations), United States Army Air Defense Center, Fort Bliss, Texas
Feb 65	May 65	Assistant Information Officer, 32d Artillery Brigade, United States Army Europe
May 65	Jan 68	Operations Officer, later Commander, and later Operations Officer, 32d Army Air Defense Command, United States Army Europe
Jan 68	Jun 69	Senior District Advisor, Advisory Team 19, United States Military Assistance Command, Vietnam
Aug 69	Jun 70	Student, Naval War College, Newport, Rhode Island
Jun 70	Jun 71	Executive Officer, 2d Battalion, 18th Field Artillery, 212th Field Artillery Group, Fort Lewis, Washington
Jun 71	Sep 72	Operations Officer, Current Operations, Office of the Assistant Chief of Staff, J-3, United Nations Command/United States Forces Korea
Sep 72	Jul 75	Assignment Officer, later Personnel Management Officer, Field Artillery Branch, and later Chief, Assignment Branch, Lieutenant Colonels Division, Officer Personnel Management Directorate, United States Army Military Personnel Center, Alexandria, Virginia
Jul 75	Dec 75	Assistant Fire Support Coordinator, Division Artillery, 9th Infantry Division, Fort Lewis, Washington
Dec 75	Jun 77	Commander, 1st Battalion, 84th Field Artillery, 9th Infantry Division, Fort Lewis, Washington
Jun 77	Jun 78	Student, United States Army War College, Carlisle Barracks, Pennsylvania
Jun 78	Jun 79	Assistant Chief of Staff, G-3 (Operations), United States Army Southern European Task Force
Jun 79	Aug 81	Commander, Division Artillery, 1st Armored Division, United States Army Europe
Sep 81	Aug 84	Chief, Politico-Military Division, later Deputy Director, Strategy, Plans, and Policy Directorate, Office, Deputy Chief of Staff for Operations and Plans, United States Army, Washington, DC
Aug 84	Jul 86	Assistant Division Commander, 1st Armored Division, United States Army Europe
Jul 86	Jun 87	Assistant Deputy Chief of Staff for Operations and Plans, (Joint Affairs)/Director of Strategy, Plans and Policy, Office, Deputy Chief of Staff for Operations and Plans, United States Army, Washington, DC
Jun 87	Aug 89	Commanding General, 9th Infantry Division, Fort Lewis, Washington
Sep 89	Aug 91	Deputy Commander-in-Chief, United States Army Europe and Seventh Army
Aug 91	Jun 92	Assistant to the Chairman, Joint Chiefs of Staff, The Joint Staff, Washington, DC

JOHN MALCHASE DAVID SHALIKASHVILI, General

PROMOTIONS	DATES OF APPOINTMENT Temporary	 Permanent
2LT		7 Jul 59
1LT	7 Jan 61	7 Jul 62
CPT	8 Jul 63	7 Jul 66
MAJ	23 Aug 67	7 Jul 73
LTC	1 Jun 74	7 Jul 80
COL	1 Jan 79	15 Mar 82
BG		1 Aug 83
MG		1 Sep 86
LTG	1 Oct 89	
GEN	24 Jun 92	

US DECORATIONS AND BADGES

Defense Distinguished Service Medal
Distinguished Service Medal
Legion of Merit (with 2 Oak Leaf Clusters)
Bronze Star Medal with V Device
Meritorious Service Medal (with 3 Oak Leaf Clusters)
Air Medal
Joint Service Commendation Medal
Army Commendation Medal
Humanitarian Service Medal
Combat Infantryman Badge
Parachutist Badge
Joint Chiefs of Staff Identification Badge
Army Staff Identification Badge

SOURCE OF COMMISSION OCS

SUMMARY OF JOINT ASSIGNMENTS

Assignment	Dates	Grade
Senior District Advisor, Advisory Team 19, United States Military Assistance Command Vietnam	Jan 68-Jun 69	Major
Operations Officer, Current Operations, Office of the Assistant Chief of Staff, J-3, United Nations Command/United States Forces Korea, United States Army Pacific Command, Korea	Jun 71-Sep 72	Major
Assistant to the Chairman, Joint Chiefs of Staff, The Joint Staff, Washington, DC	Aug 91- Jun 92 (No joint duty credit)	Lieutenant General
Supreme Allied Commander, Europe, Supreme Headquarters Allied Powers Europe/Commander in Chief, United States European Command	Jun 92-Present	General

As of 28 August 1992

Statement of

GENERAL JOHN M. SHALIKASHVILI

Commander in Chief
United States European Command

before the

HOUSE OF REPRESENTATIVES

Committee on Appropriations

Subcommittee on Defense

APRIL 1, 1993

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SUBCOMMITTEE ON DEFENSE

Mr. Chairman and distinguished members of the Committee, it is an honor to appear before this panel to discuss how the United States European Command can best serve U.S. interests in a world undergoing profound change. It is also a great responsibility. We are in a watershed period, one in which our actions and decisions will have consequences for our national security well into the next century.

My combatant command has an area of responsibility (AOR) that includes some 82 nations and encompasses Europe, parts of the Near East, the North African littoral, and sub-Saharan Africa. This AOR contains over 13 million square miles, is home to more than 1 billion people, and includes a wide diversity of geography, cultures, religions, economies, governments, and security needs. All across the AOR, USEUCOM forces are busy. During the past year we have planned over 30 operations and executed 12 of those plans. These operations included emergency evacuations of U.S. citizens, humanitarian relief, monitoring and enforcing U.N. resolutions, and providing surveillance of suspected drug traffickers.

On the European continent, the U.S. is actively participating in forging a new European security order. The Versailles Treaty signed following the First World War failed miserably and quickly. The competing Alliances formed following the Second World War proved more stable, and the perseverance and solidarity of the NATO nations brought about the successful end of the Cold War. Because of our willingness to stay the course during the often difficult years of the Cold War, we now have the opportunity to foster democracy and mold a security environment more durable and equitable than our world has known for centuries. Today, the nations of the former Warsaw Pact including the Republics of the Former Soviet Union, are desperately seeking the security and stability we in the West often take for granted. No matter where I travel in the former Soviet Bloc, the desire for closer ties to the West is at the top of each nation's priorities.

Succeeding in this endeavor is a U.S. interest of the very highest order. How Europe fares in the coming years will have major consequences for the U.S. The United States and its traditional European Allies, play a crucial role in the development of the democratic institutions and free market economies of eastern Europe and the former Soviet Union. How successfully they develop will determine to a large extent the future stability of Europe and the world. Our success with these countries will validate the democratic and economic principles we hold as the basis for our way of life, and bring us friendly relationships and perhaps reliable future allies. Their failure may leave hostile regimes and embittered enemies in their place.

It is in this context that NATO plays an absolutely critical role. No imaginable collection of bilateral agreements could replace the Alliance. NATO forms the framework for our influence and leadership, which because of our geographic position, is of a sort that no European nation could provide. Through NATO, the

U.S. is a European power even though we don't have or desire a single square inch of European territory. It is our leadership, in turn, which makes NATO possible. We must be clear about the source of our leadership--we can lead NATO because USEUCOM is a credible forward presence on the European continent. Our military contribution is significant compared to those of other member nations; so is our influence. Nothing can be more favorable for U.S. interests in Europe than to retain that degree of influence.

THE EVOLVING SECURITY ENVIRONMENT

Within that context, let's take a broad look at the security environment in my AOR. The "threat" in the old sense of a global power openly hostile to the U.S., our allies, and our way of life is gone. On the other hand, threats in the sense of situations that are dangerous for our long term vital national interests have multiplied. Rather than a global conflict with an ideological foe, we must now be able to deal effectively with numerous, highly unpredictable crises. The collapse of totalitarian governments has unleashed artificially suppressed, centuries-old grievances and disputes all across Europe. Armed conflict has ignited in numerous locations throughout the former Warsaw Pact and in other parts of our AOR. In the Balkans, a violent civil war is devastating the former Republic of Yugoslavia and threatening the peace and stability of neighboring states and the region. In the republics of the former Soviet

Union, armed clashes have broken out in Nagorno-Karabakh, Georgia, Tajikistan, and Moldova. In northern Iraq and Turkey, the Kurdish insurrection grows more violent even as we remain actively engaged in the coalition monitoring and enforcing compliance with the U.N. resolutions. In the Middle East, despite the ongoing efforts of the U.S. to encourage meaningful peace talks between Israel and its Arab neighbors, the basic issues of that region remain unresolved. We are hopeful that peaceful solutions can be found, but the outcome remains difficult to predict.

Other problems that have not yet resulted in protracted armed conflict continue to challenge stability and security throughout the AOR. Over the past decade, the trend toward radical religious fundamentalism has increased dramatically. The possible proliferation of nuclear weapons and weapons grade materials continues to pose a threat for world security. Drug trafficking has also increased through distribution hubs in Africa to Europe and America. Political and economic instability are fostering subversion, insurgency, and terrorism as additional challenges to regional stability. Recent events in Russia highlight the great potential for the democratic reform movement there to succumb to the immense difficulties of reorienting that society toward democracy and a market economy.

Although there are encouraging signs of progress toward democracy and free market economies in Africa, the overall picture remains bleak. Drought, famine, the AIDS pandemic, resurgent tribalism and gangster-style warfare threaten to overwhelm all progress. As a result, we are likely to see more Somalia-like situations well into the foreseeable future.

This snapshot view of the security environment clearly demonstrates why, from my perspective as a theater combatant commander, the forward-based presence of significant American military forces is absolutely essential not only to support our leadership role in NATO but also to support our National Military Strategy. USEUCOM forward-based forces provide strategic depth that is critical as we continue to reduce the size of our force structure. We are strategically positioned among friends, preserving the priceless legacy of over forty years of close cooperation. We are strategically positioned in close proximity to deter potential adversaries, reminding them that we are not without formidable military power nor the political will to use it if necessary. The best analogy for strategic positioning comes from our experience in the Gulf War--I believe that had it been possible to station a U.S. division in the Arabian Gulf region in early 1990, we may not have had to fight DESERT STORM. Forward-based forces protect U.S. interests daily on a smaller scale and at lower cost than those forces required if we have to respond to an emerging crisis. They also provide the leading edge of America's ability to respond to fast-breaking events. While that continuous presence can be augmented by a variety of means (e.g., deployments, prepositioning of equipment, combined exercises, military-to-military contacts, security assistance), nothing conveys our commitment to the stability and security of our friends and allies like forward-based forces. As we saw during the Gulf War, this kind of tangible commitment pays dividends in the form of material and political support for coalition endeavors. Currently, U.S. access to vital aerial and sea ports across our AOR permits our global power projection to support on-going operations in Yugoslavia for PROVIDE PROMISE, in Turkey for PROVIDE COMFORT, and in Somalia for U.S. Central Command and RESTORE HOPE. Basing and overflight rights for such operations, and a willingness to participate directly are basic and irreplaceable returns on our forward-based commitment.

Moreover, the presence of our highly capable conventional and special operations forces with a full range of combat power, logistical, and support capability serves as a stabilizing factor in the security of the region. Their presence also demonstrates the will and capability to protect U.S. interests, and provides our national leaders with the broadest array of possible response options. Through forward-based presence, we are able to provide meaningful military response options measured in terms of minutes, hours, and days rather than weeks and months.

USEUCOM FORCE STRUCTURE

We have developed our force structure to demonstrate our commitment to our Allies and that we intend to remain involved as a leader in European security decision making, match U.S. security requirements for forward presence and crisis response, and to provide logistical capability to support operations in Europe and throughout our AOR. Our force structure accounts for the new, and still evolving security environment, and recognizes constrained fiscal resources. We believe it is prudent not to cut too far too fast in order to deal with an uncertain future. Our original planning called for this force to be manned at around 150,000. However, as we go lower we must dual base subordinate elements of the air and land forces, particularly land forces, in the U.S. If we reduce too far we will lose our capability and our commitment to Alliance collective defense will be questioned. We are carefully and continuously assessing the force changes and the impact they will have on our forward presence mission. Our forces must maintain a balanced mix of land, air, and naval power in order to demonstrate that the U.S. is willing to make a credible commitment to Alliance security. Our currently planned forward-based joint force to provide this credible commitment and maintain combat effectiveness will total approximately 100,000 personnel assigned in Europe at end state.

As we reduce and reshape our forces, we must be careful not to damage their inherent capabilities. Our experience thus far with crisis response has consistently shown that our general purpose forces contain the broad range of specialties such as medics, engineers, logisticians and air defense personnel that crises demand. Additionally, as we reduce our forces, we must retain high confidence that they are well designed to successfully meet major regional operations and provide for crisis response. If we design our forces solely for crisis response, we probably miss the mark, because the nature of crisis is unpredictable. We would give up the capability for a broad range of response options to a broad range of crises. The USEUCOM force must include a foundation of intelligence, communications, logistics, and associated infrastructure to support the reception of reinforcing units from the U.S. or the deployment of forces for contingency operations. As USEUCOM forces continue restructuring, our Special Operations Forces provide a dynamic, cost-effective, capability throughout the AOR. They retain their ability to conduct forward presence and contingency operations unilaterally, jointly with other U.S. forces, or as part of an Allied or coalition effort.

DRAW DOWN PROGRESS

Over the past year, we have continued realigning our force structure in accordance with our force drawdown gameplan. As of March 1993, our forces number about 173,000 (105,000 Army, 55,000 Air Force, 13,000 Navy). During this year we will further reduce to approximately 163,000. We also continue making significant progress in reducing our basing infrastructure in Europe. Thus far we have initiated realignment action on 649 sites which is 47 percent of the total we occupied at the start of the drawdown in January 1990. Of that number, we currently plan to fully return 585 to the host nations, partially return 60, and place 4 in standby status. To date we have closed and returned 417 sites, a

30 percent reduction from the January 1990 baseline. Current estimates indicate that total residual value from installations returned to host nations will be over $1 billion. The eventual amount of residual value payments we receive and the timing of payments will depend on a variety of factors including the negotiated value of U.S. investment, offsets for damages, and the ability of the host nations to pay. We believe that residual value negotiations will return compensation to the U.S., but they will be lengthy and host nations may ask to spread their payments over several years.

As we reduce the size of our forward-based forces, other forms of forward presence may receive increased emphasis. Today some of our forces are rotational, such as Navy and Marine Corps units in the Mediterranean, plus some specialized units whose mission lends itself to a rotational concept. Deployment by Guard and Reserve units and individuals on a rotational basis is increasing. Although we have found this concept workable for certain units and missions, it may not be appropriate for many larger-sized units. Previous DoD studies have shown that the rotational concept is more expensive than accompanied tours in many cases. The costs include maintaining two bases, one in the U.S. and one overseas, as well as additional temporary duty and transportation costs. Over the long term, expanding the units we routinely rotate into theater will adversely affect unit readiness levels and personnel retention. While rotating appropriate units enhances our forward presence and allows the US to exert influence in areas where we have no permanent bases, it is not a substitute for forward-based forces.

RESOURCE PRIORITIES

The resources required to maintain the smaller European Command forces and logistics infrastructure are markedly less than our previous commitment during the Cold War. We have identified key areas on which to focus our limited resources. The following priorities reflect my best judgement on the essential requirements to implement our drawdown plan effectively and on time while retaining a credible combat force in Europe that provides the necessary capabilities.

The most important resource requirement of U.S. European Command is our people. We must continue to give high priority to providing our troops and their families a good environment in which to live and work, facilities that meet their basic needs, and reasonable health care. These bright and dedicated American citizen-soldiers deserve the best we can provide them. While we will continue to support efforts to encourage our Allies to pay more of the costs of stationing U.S. forces in Europe, we must maintain a minimum quality of life for our people.

Recent funding reductions directed specifically at overseas operations and maintenance (O&M) accounts will adversely impact our ability to continue protecting the quality of life for American military members and their families stationed overseas. O&M funds provide for a broad range of requirements that include base operations, training, intelligence, environmental safety, and mission accomplishment. Therefore, significant reductions in those funds drive broad ranging cuts at all our installations adversely impacting our ability to safeguard America's investment, and degrading our ability to accomplish our mission.

A $6 million O&M reduction in FY93 seriously degraded our progress in standing up the new Joint Analysis Center at RAF Molesworth--the theater's focal point for all-source intelligence production. This cut also inhibited our Automatic Data Processing (ADP) integration and interoperability, the hallmark of a joint command. A reduction of this magnitude threatens to undercut the intelligence flow to our operating forces because of the tenuous reliability of our existing ADP systems. Even as we reduce our forces, we must ensure that we keep carefully conceived, high-payoff modernization programs on track. Ultimately, large reductions across critical funding areas such as O&M, seriously undermine the morale, efficiency, and mission effectiveness of our troops.

Another priority must be to maintain the readiness and training of our forward based forces. The diverse missions that USEUCOM forces may have to execute in response to fast-rising crises requires us to maintain the highest possible combat and combat support readiness within our units. As we have witnessed over the past few years, whether in the battles of DESERT STORM, the evacuation of U.S. citizens from areas of imminent danger, or in humanitarian relief missions in the Balkans, Northern Iraq, the former Soviet Union, and Somalia, our forces must be fully trained and ready to meet a wide range of contingency operations. Deep O&M cuts make it difficult to provide training required to keep our troops at the necessary high readiness levels. Continued funding for joint and combined exercises is crucial as we work to develop procedures to recognize and integrate fully our capabilities in multinational formations. We will continue to increase use of computer simulations, command post and field exercises, combined arms training, and joint service/combined operations as the basis of our training programs. Effective use of simulation allows us to continue to accomplish essential training while lowering overall costs. The leading edge of our nations' presence and crisis response capability will grow dull unless O&M accounts are adequately funded to support training and readiness.

Taking care of America's investment in irreplaceable infrastructure in Europe requires us to make periodic maintenance and routine upkeep a resource priority. As we return forces to the U.S., consolidate units, and close installations, we must maintain existing facilities on those installations we plan to retain. Beyond that, reduced forward presence requires increased power projection capability, with clear implications for our system of bases and facilities. Although reduced in size, our remaining forces still require adequate quarters, decent work places, functioning heat and electrical plants, and usable storage areas in order to support daily operation and training while caring for our troops and their families. Real Property Maintenance Activities (RPMA) were underfunded by 18 percent in FY92 and FY93 causing the backlog of maintenance and repair to grow to over $100 million . This situation seriously undercuts the Command's ability to maintain infrastructure properly and results in failing, unsafe, and inefficient facilities. In turn, that damages the Command's training capability while sapping the morale and warfighting effectiveness of our people. O&M accounts that provide adequate funding for overseas RPMA are necessary to preserve the infrastructure that is absolutely essential to USEUCOM's combat capability.

We need to complete some military construction projects on installations we plan to retain. Our request this year is 9 projects at a cost of $69.9 million. These projects will help maintain a decent quality of life, and provide critical mission support at our installations. All are crucial to our continuing ability to perform assigned missions and maintain combat ready forces.

The strategic agility to deliver combat forces worldwide becomes even more crucial as we continue to draw down forward based forces. Operations in the recent past have repeatedly demonstrated that the basing, logistical assistance, and overflight rights provided by our European friends and allies are essential to our ability to answer the call. Access to irreplaceable air and sea ports is critical to our ability to project power throughout our AOR and around the globe. America's investment in allied or host nation infrastructure throughout Europe pays off in basing, reinforcement, and deployment assets that are crucial to our ability to respond on a daily basis. Adequate airlift and sealift capability combined with prepositioned equipment on land and at sea will provide us with the ability to respond whenever and wherever our national interests dictate.

Selective modernization will continue to provide the best available mix of mobility, lethality, firepower, command and control, and communications. Leveraging our investment in existing systems through cost effective upgrades and acquiring the most promising new systems will provide essential capabilities at least cost. Enhanced defense against ballistic missiles will be essential in the face of their growing proliferation. Development and deployment of an effective theater missile defense should be one of our highest acquisition priorities.

A relatively new initiative, the Military-to-Military Contact Program, provides unprecedented opportunities to lay the groundwork for firm and enduring relations with new friends in Central/Eastern Europe and the Former Soviet Union as these nations struggle to rebuild and reorient their militaries within democratic frameworks. Military-to-military contacts reach where Security Assistance programs are not yet able to go. For a small investment, we are able to influence directly the shape and character of these new militaries and in the long run, have a positive impact on the stability of the entire region. U.S. influence in the development of these nations is key, but the window of opportunity to exercise our influence is limited.

Throughout the AOR, security assistance programs allow us to capitalize on opportunities to encourage democracy. Last year, the security assistance programs to several key allies were reduced significantly. The potential impacts of these reductions include lost contracts for U.S. companies, loss of access to critical enroute and staging bases, and lessening of support for U.S. interests throughout the region. A small investment now in security programs for valuable allies, will pay significant dividends well into the future. Our request for security assistance and USEUCOM discretionary funds for Sub-Saharan Africa would provide the flexibility necessary to take advantage of time-sensitive opportunities to support friendly nations and to promote democratic ideals and regional stability. Our efforts in Africa are structured to support national policy and the goals and objectives of the various U.S. Embassy teams. We are developing, integrating, and implementing modest initiatives which complement the traditional security assistance programs. Our support of national policy focuses on non-lethal, humanitarian and nation-assistance activities. We are convinced that professional interaction between host nation and U.S. military personnel contributes directly to the promotion of democratic ideals and lessens the likelihood of future requirements for large scale military involvement. These activities also enhance our access to key people and thus our capability to carry out contingency operations if they become necessary.

NATO: A CHANGING ALLIANCE

As I said earlier, NATO remains the key to strategic stability in Europe and U.S. leadership remains the key to NATO. It is the premier collective security organization in the world and is actively enlarging the scope of both its activities and participants. NATO helped resolve one of the most threatening and most extended crises ever in the Cold War, establishing a remarkable record of effectiveness over 40 years of confrontation with the Soviet Union and Warsaw Pact. As a result, Eastern European nations are now looking to NATO in an effort to deal with their own security concerns. Because NATO alone has the requisite experience, infrastructure, forces and mechanisms to adapt successfully to the changing security environment, it remains our best and most cost effective hope for contributing to a stable European security environment. The military dimension that underwrites collective defense must continue to include an appropriate mix of conventional and nuclear forces designed to serve a purely defensive purpose. These forces are, however, being substantially reduced. Conventional forces are being given more flexibility and mobility to respond to a wider range of contingencies. They are organized to provide operational combat flexibility, as well as logistical support to enhance Allied crisis management and defense capabilities.

Over the past year, Alliance forces have been employed at various times under the auspices of several different organizations. NATO Airborne Early Warning Aircraft are monitoring the airspace over the former Yugoslavia. In the Adriatic, NATO and Allied naval forces are employed to assist in monitoring and enforcing the U.N. sanctions. In Yugoslavia, Alliance members have contributed ground forces to United Nations peacekeeping operations, including our own deployment of the 212th Mobile Army Surgical Hospital to Zagreb. Also, elements of the NORTHAG headquarters are providing important command and control functions for the U.N. Protection Force there. NATO logistical assets and infrastructure continue to be instrumental in supporting such operations as Provide Hope, Provide Transition, and other on-going humanitarian operations. All these operations show an Alliance commitment to the continued development of the stability and success of emerging democracies.

To encourage dialogue and cooperation, the Alliance established the North Atlantic Cooperation Council (NACC) to provide forums in which new Central/Eastern European democracies could discuss their security concerns with the West. Through the NACC, NATO is supporting the continued progress in democratic and market-oriented reforms which is essential to the success of these nations. Moreover, NATO is striving to further expand cooperation with its new associates in political, military, economic, scientific, environmental and information fields, including defense conversion and civil/military cooperation in air traffic management. The NACC members have also agreed to support and contribute on a case by case basis to peacekeeping operations under the UN or CSCE. These initiatives by NACC members should further lead to the development of a series of programs of cooperation which could cover such areas as peacekeeping training and operations, arms control issues, military exercises, and crisis management.

Clearly, NATO can no longer be viewed solely as an Alliance against an adversary, but rather as an Alliance for peace, security, and stability. Continued U.S. leadership is essential to NATO's continued success. The highly visible commitment of forward based U.S. forces enables the U.S. to continue to influence and shape events in Europe. That influence will help open new markets for U.S. goods and provide new opportunities for economic, political, and security cooperation.

NATO INFRASTRUCTURE

The NATO Infrastructure program is one of the most visible and successful examples of collective burdensharing in the Alliance. Commonly-funded by participating nations, the infrastructure program provides operations facilities, bases, command, control, and communication systems and equipment for all NATO-assigned forces. Facilities funded through the program are located both in Europe and in the U.S. Historically, U.S. forces have benefitted significantly from the total program expenditures, and U.S. industries consistently win half of the program's high tech projects.

We have thoroughly examined the NATO infrastructure program to ensure that only valid requirements are funded. The DoD budget request of $240 million in NATO infrastructure funds for FY94 is the minimum level we believe necessary for restoration of existing NATO facilities, nuclear surety projects, and recoupment of pre-financed projects. The U.S. Ambassador-at-large for Burdensharing has been successful in obtaining NATO support for a new initiative. Our Allies agreed in principle to fund the O&M requirements for site operation and maintenance of facilities supporting reinforcing forces from the CONUS. However, the large reduction to our FY93 infrastructure request prevented pursuing NATO funding this year. Additionally, unfunded new projects include embarkation and storage facilities planned for construction in the U.S. that are key to our capability to respond to crises worldwide. NATO infrastructure funding reductions in FY94 would have a very severe near term impact on this highly effective cost-sharing program, and erode our Allies confidence in continued U.S. commitment to common funding for new initiatives and projects. In the longer term, the cumulative effects of additional funding reductions will impact NATO's ability to meet basic mission requirements.

LOOKING TO THE FUTURE

Given the volatile security environment within my Command's AOR, there is enormous potential for a wide variety of unexpected crises arising to jeopardize our vital national interests. If recent experience is any indication, we are likely to be engaged in contingency operations across the spectrum involving joint, coalition, or Alliance endeavors.

The likelihood of continued engagement and future flash points in the USEUCOM area combined with America's regionally focused defense strategy have compelled us to undertake numerous initiatives that enhance our ability to respond appropriately and decisively to unexpected crises. These include improvements to contingency planning, crisis assessment, joint task force training, commander preparation, joint and combined exercises, command and control, and logistics support improvements. These command-wide efforts are reinforced by my Component Commander's initiatives to improve their ability to conduct joint and combined operations. Our ability to respond effectively to future crises hinges on retaining a full spectrum of capabilities within U.S. forces forward based in Europe.

A solid commitment by the United States to European security is required if U.S. European Command is to be able to meet the challenges of uncertainty, instability, and strife that characterize our AOR. Our planned forward-based forces are structured to ensure credible deterrence, underwrite our leadership in NATO, contribute to collective defense, promote regional stability, assist in humanitarian efforts, and provide a flexible crisis response capability. We must continue to place emphasis on taking care of our people. We best do this by providing them a decent living and working environment, engaging them in the most realistic training we can devise, and acquiring for them the best mix of weapon systems, modernized equipment, and logistical capabilities we can afford. With the support of the American public and Congress, U.S. European Command will continue to be able to safeguard and promote U.S. national interests with competent, credible, and operationally significant forces that are ready to undertake varied and multi-faceted missions.

NUCLEAR WEAPONS CONTROL

Mr. MURTHA. In your estimation, who controls the Russian nuclear weapons? What do you see as the stability in Russia. What is the military situation as you see it? How recent is your information?

General SHALIKASHVILI. I had an opportunity in January to visit Russia at the invitation of General Grachev, the Defense Minister. While there I also had conversations with Marshal Shaposhnikov, the Commander of the CIS forces.

Day before yesterday, General Grachev came to visit me and spent four and a half hours talking about those issues you raised. So some time between January and day before yesterday I base my information on. ———.

Mr. MURTHA. What is your conclusion if the Ukrainians did control the nuclear weapons? What does that mean to us?

General SHALIKASHVILI. I think it sets off a whole chain. It sets off, first of all, the chain with respect to the fact that the U.S. and other countries have worked very hard to ensure that we do not proliferate weapons and therefore insistence has been that out of the former Soviet Union we do not create new weapons-holding states. So the danger you have is that you will have created a new nuclear weapon state, which is certainly not in my judgment helpful to stability and runs counter to the U.S. policy, and I believe the policy of the rest of the free world. But, I think your question gets at the issue of how dangerous that would be.

That depends on how responsibly the Ukraine would safeguard those weapons and in that respect, I must tell you I don't have any indication that Ukraine would be irresponsible in the way they protected or treated those weapons. But I see as a very negative sign the tensions it would create between Russia and Ukraine in the whole part of the world and the fact that we have suddenly created a new nuclear weapons state.

Mr. MURTHA. Is it your impression that the military is stable, that they are not interfering in the political process that is going on in Russia?

General SHALIKASHVILI. I have no indication, Mr. Chairman, that the military is other than apolitical in this issue here between President Yeltsin and the Russian Parliament. General Grachev again stressed for quite some time the fact that he has worked very hard to ensure the military would stay apolitical, that he is convinced that he has a firm hand on that issue, and that he controls not only the airborne forces and the spetznatz, who we characterize as the important ones to control because they have the readiness and communication, et cetera, but also the other ground forces. He felt comfortable that the vast majority is behind him in staying out of that political issue between Yeltsin and the parliament.

I know of nothing that has come to my attention in intelligence channels that would contradict that.

RUSSIAN FORCE READINESS

Mr. MURTHA. Do you have any information about the readiness of the Russian forces? You say it looks like the maintenance in Ukraine of the nuclear weapons has deteriorated.

How about conventional forces? How is their morale and how are they maintaining their systems?

General SHALIKASHVILI. ———. Again, I don't have an independent way to clarify.

In terms of conventional forces, everything that I hear and all indications that I have is that readiness of equipment, that readiness in terms of training, that readiness in terms of morale of soldiers is not very good.

I am sure when you speak of a country as large as Russia with as many forces as they have that there are pockets up and down, but generally it is my understanding that many units conduct no training. I am sure some do, but many don't, that the equipment is not in good shape and that the morale is not very good.

Mr. MURTHA. In the supplemental two years ago, Senator Nunn recommended that we provide a billion dollars of defense money to help the Soviet Union. This was the Nunn-Lugar suggestion. I rejected the idea. I felt we would be throwing money away if you just gave the Russians money.

In the supplemental I made a different suggestion. We finally put $100 million in for transporting donated food and $400 million for demilitarization. What can we do as far as aid goes? Obviously, a billion dollars is nothing compared to what the Germans have spent trying to get their economic situation under control.

Because Russia is much larger than Germany, their problem is more severe. What can we do to help Russia? Is there anything we could do that would help stabilize the Russian situation and allow them to fulfill some of the things that we agree would be a positive step for the U.S.?

General SHALIKASHVILI. I think that when I ask senior Russian military officials, there are a number of things that are usually mentioned, many of them you are very well familiar with, but invariably in that catalog of things first and foremost is housing. I think the problem with housing is extraordinarily acute.

Mr. MURTHA. This is individual housing?

General SHALIKASHVILI. That is housing for those Russian soldiers who are coming out of Germany and the Baltic countries. I think you are right, that that is such a huge problem that you sort of get mesmerized by the size of it and don't know how to proceed.

I would say every little bit helps. I certainly would not say, would not be in a camp that says we shouldn't help them with housing. Recognizing that there is only a limited amount we can do.

Despite the huge amounts the Germans are putting in it won't solve the whole problem.

HOUSING FOR RUSSIAN TROOPS

Mr. MURTHA. Before troops move out, the Germans are putting money into housing in Russia?

General SHALIKASHVILI. That is correct. They are making money available for contracts to be let for housing to be built.

I don't know who has the contracts, but it isn't German companies as one would presume, although I am sure some might be there as well.

Mr. MURTHA. I spoke with six Russian air force generals and they all felt that housing was a key problem. In the demilitarization of nuclear weapons, do you have any indication they are making progress?

Yesterday, I read an intelligence report that said we have supposedly demilitarized 14,000 weapons. Yet there are indications there are the same number of nuclear warheads in Russia as there were before because they are continuing to produce nuclear warheads. So, there is really no decline in numbers.

Do you have any way to verify one way or the other which direction we are going or whether there seems to be a trend down?

General SHALIKASHVILI. No, I cannot verify or deny what you have just said. It is my understanding from discussions I have had with their nuclear experts that their capacity to demil nuclear weapons is relatively small and so they have always talked to me in terms of that process being very, very long and I think there were early on discussions of using some of the Nunn-Lugar money, the $400 million to see somehow whether the process could be speeded up.

As you could understand, a country's nuclear secrets are probably its most prized possessions. So the Russians are always very reluctant to let U.S. or other Western experts get into the demil issue of their warheads.

Mr. MURTHA. One of the things I suggested to Secretary Cheney was not to turn this over to the State Department or it would never get done. As I understand it from staff, there has been a substantial amount of money obligated, but I don't know what progress has been made. I assume nobody in your shop is handling it. Is demilitarization being handled by the State Department?

General SHALIKASHVILI. When I left Washington, it was handled by the State Department, although DOD had people on the team that would travel to Russia to discuss specific problems, whether there were containers for the storage of these nuclear weapons while they are awaiting demil or whether they were kept in blankets so when the warhead are being transported they are less likely to be damaged by terrorists.

Mr. MURTHA. The Russians probably have more warheads—

Mr. LEWIS. Mr. Chairman, if you would yield. General, I think the Chairman makes a very good point. I know it is a delicate business, but can you tell us for the record what you think about this point? It seems to me that the military does have a driving interest and the State Department, to say the least, often is soft in terms of its direction.

General SHALIKASHVILI. I think the whole issue is something that needs to be handled by interagency.

Mr. MURTHA. Yes, because you have a good rapport with their Minister of Defense. You talk back and forth continually. The U.S. and Russia both have the same idea. They and the military want stability. I don't know who controls the government but we do know the military is a fairly stable organization. It is one of the most frustrating things I have ever been through. Dick Cheney apparently couldn't do anything about it when he was Secretary of Defense. I have complained since Secretary Aspin took over and I haven't made any progress as far as I can tell. What worries me is that we are ending up with more nuclear weapons in Russia than we had before.

RUSSIAN TROOP RETRAINING

General SHALIKASHVILI. To the point that you made earlier about what can we do for the Russians, and I mentioned the Russians want improved housing. Another thing mentioned to me as frequently as housing is the issue of training; retraining of their officers that are going to leave the service.

It is often mentioned to me that we have great programs where we quickly can give them skills that are marketable in civilian life. On visits to St. Petersburg and talking to the Leningrad military district commander in Moscow, that is a frequently mentioned item. In other words, can we, with all our educational systems, help them set up something like that?

Mr. MURTHA. So demilitarization, housing and retraining would be three important programs. Why just throw food at them? I am sure there are needy Russians. If there are large numbers of needy, the news media would show them. I think we have exaggerated the problem in some countries—Somalia and Sudan. I know it is a terrible situation, but I got the impression I kept seeing the same people over and over again.

When I went there, I didn't see the same situation portrayed in the news media. I get an impression there is an exaggeration by the news media of the situation. I can see it is a fundamental problem in the Soviet Union, not of food, but getting food to people who need it.

General SHALIKASHVILI. It seems to me that it is the distribution, and establishment of wholesale systems to get things to the people who need them that is the problem.

Mr. MURTHA. Mr. Visclosky.

FORCE STRUCTURE DRAWDOWN

Mr. VISCLOSKY. Thank you, Mr. Chairman.

General, last year General Galvin stated that he was flying 500 people a day from Europe to CONUS. Because of the rapid departure, military families were required to leave behind possessions and to disrupt their children during the school year. In terms of the experiences occurring today, what is the impact of our downsizing in your command on the children of the military personnel under you?

General SHALIKASHVILI. I was in Europe——

Mr. VISCLOSKY. Should we be concerned about how the downsizing disrupts their lives?

General SHALIKASHVILI. I was deputy commander of U.S. Army Europe when we were at the height of the drawdown.

The number today is much closer to 300 soldiers, sailors, airmen and their families a day that were moving. I would say that the impact is still considerable, but much less than it was.

Our reductions, which go from 132,200 in 1994 and to approximately 100,000, in 1996, will allow a glide path that makes this much more manageable and we will be able to do, I think, a good job by our soldiers and sailors and their children.

So I think at the time that General Galvin talked to you, we were at a very severe ramp of getting people out of there. The ramp that we are on now, I think it is manageable.

IMPACT AID TO SCHOOLS

Mr. MURTHA. Would the gentleman yield? One of the things I think you told me when we were in Europe was that there would be a severe shortage of teachers or surplus of students in U.S. schools. We put aid into the schools and I understand this has helped alleviate the problem in schools around Fort Campbell. Have you heard complaints that kids are in classes that are too large? Any feedback from the troops?

General SHALIKASHVILI. I have not and I appreciate what you and the Committee did to help the situation in the U.S. We should not bring our people back to CONUS without providing sufficient housing or sufficient schooling.

At the rate that we are now flowing, I am sure that there are pockets of difficulty. I am not aware of any specific ones right now. Because it, in fact, has subsided since we have slowed down the rate of withdrawals. That is why in my opening statement that I asked that we try to retain the glide path that we are on now and not return to a steeper slope. Otherwise we will return back to the days when we couldn't find enough moving vans and soldiers had to leave their cars behind because we had flooded the market with used cars that they couldn't bring back and they had to sell there.

All the adverse things come back if you speed up withdrawals. I plead that we keep the glide path and that we put some stability into the system so we don't have a new number each year.

We have now settled that approximately 100,000 is the number for 1996. Every European that I have talked to now accepts that. I think every responsible European accepts that as a serious U.S. commitment to the Alliance. And most importantly what the soldiers now would like to know is if this is the last number so we can figure out who is going home and who isn't. We don't want to wait six months from now and hear a new number.

Let us live for a while with a number of approximately 100,000 so we can adjust to that.

Mr. VISCLOSKY. Talking about the glide path, we are talking about average numbers. Getting back to my original question in terms of the school year. I don't know if American students overseas follow the U.S. school year.

In terms of disrupting a child's life; are you waiting until the end of the school year to move troops? If you wait to move troops, won't the end result in terms of the number of troops in 1996 still be the same?

Delaying moves, might require us to spend more dollars in the short term. However, I am concerned about jerking these kids around.

General Shalikashvili. We are making every effort to ensure as many as possible are moved during the summer.

Secondly, as we get to the end of a semester, and certainly for those that are affected by graduation, that provisions are made that those kids can stay and finish the school year. But I cannot tell you if someone is supposed to leave in March that he is going to stay until June, although I think there is a pretty high assurance that he will particularly in the case of a high school senior. The units will do everything they can to alleviate problems.

If you are not moving as many per year you have more leeway. There is a great deal of sensitivity to this situation. I have a youngster that I have moved to Europe five times now, I think, if I remember correctly. I moved him in his senior year and he never forgave me. So I am very sensitive to what you are saying.

Our commanders are very sensitive to it and all I can tell you is as a result of your remark, I will go back and talk to that issue again to make sure we are not doing dumb things.

WEST EUROPEAN UNION (WEU)

Mr. Visclosky. If there is something we can do, that would be great. The kids are in a situation they didn't ask to be in.

Could you explain to me the West European Union, the U.S. role and how it ties in with NATO?

General Shalikashvili. That is really an organization of West European nations that is a little older than NATO, but it has been dormant for many years. It was in the last few years when Europe began to again seriously talk of a unifying movement, as exemplified, for instance, by Maastricht that the issue came up of a European defense identity, if the Europeans are going to go in a direction of an economic union, a monetary union, there ought to be a structure that also provides the Europeans a defense union.

And it is there that they seized upon the West European Union. It was this kind of an organization, to see whether the West European Union could not in fact fill the role of this European security identity.

Mr. Visclosky. Would it be a mirror image of the Common Market nations or is it broader than that?

General Shalikashvili. It includes most of the Common Market nations; that is right. The intent was that it would complement the Alliance, the WEU would function within NATO because all WEU members right now are also NATO members. So when a security issue would come before us, it would first go to NATO, and if NATO for some reason, whether it is a political, economic or historic reason, chose not to engage on that issue, we would then turn to the WEU nations and see if they would want to take it on.

If they did not wish to take it on as the WEU, then we would look for a coalition of the willing as we did in Operation Desert Storm or Operation Comfort.

Lately, there has been talk that maybe the WEU organization should stand next to NATO, since all belong to NATO, and those of us who also belong to the WEU have this companion organization that complements the Alliance. I think the jury is still out on that.

Mr. VISCLOSKY. What would their function be if you have NATO and a dual membership? We do not belong to the WEU.

General SHALIKASHVILI. We do not. One reason is Europeans feel that NATO is very much an American-led organization and that when the Americans choose not to participate, they really need their own organization to then go forward. Because for them to use NATO seems difficult and complex because Americans are so interspread in the Alliance or maybe they perceive if the U.S. does not participate, there ought to be a European organization that they can then utilize to achieve the same end.

WEST EUROPEAN UNION IN BOSNIA

Mr. VISCLOSKY. If the U.S. didn't want to participate in Bosnia, but the WEU did, they would have a separate organization. What happens if they wanted to use material and troops that would be common to both nations? I assume they would consider that a separate command. What is the impact on NATO?

General SHALIKASHVILI. It would be wrong to assume that the Western European Union today is so mature that they could in any serious way go into Bosnia. They do not have a standing command structure. The Western European Union is a collection of nations that said "we got to build something," but they haven't done that yet, so that is not a reasonable alternative.

If the WEU in the future wants to take on military tasks could they use NATO infrastructure and equipment? That has not been firmly resolved, but everyone believes they should be allowed to. No one wants to ask our taxpayers to somehow build two sets of equipment and infrastructure. There ought to be this transparency between the WEU and NATO.

The WEU is involved in a military operation with NATO in the Adriatic. The WEU has a few ships patrolling and enforcing sanctions against the former Yugoslavia. NATO has a standing naval force in the Mediterranean.

There are two flotillas in the Adriatic doing their job. That is all right, because there is enough work for all of us today. That is the only one I know where the WEU is involved.

Mr. VISCLOSKY. What is the status of the Eastern European countries joining NATO and what do you see the future of NATO being in the next five or ten years on the assumption you see the additional membership?

General SHALIKASHVILI. I personally think that NATO is an absolute key in the thought process of our East European friends. I was in Hungary recently and the most frequently asked question was "when can Hungary finally become a member of NATO?" I think all of us who have travelled to Eastern Europe will agree that the most often asked question is when any country in eastern or central Europe could join the Alliance.

The Alliance position so far has been, that while the Alliance has never been a closed organization, the time is not quite right yet to open that question because the tensions that it would create in the eastern parts of Europe would probably outweigh any short-term gains of tackling that issue now. ———.

The distrust and animosities are too high. NATO recognizes that and created the North Atlantic Corporation Council where NATO members and members of the former Soviet Union, from the former Warsaw Pact, get together and develop a work program where they can sit around the table and discuss security issues without touching upon the issue of membership.

I think we will not be able to hold that issue off forever, but I think it is on the right course now.

As far as the Alliance is concerned, I think that despite its shortcomings, despite what people may say about it, it is the only organization today that has the tools and can provide the mechanisms to deal with the instabilities and the insecurities in the Trans-Atlantic region.

Go to Hungary or somewhere and you will feel that they need that rock of stability that the Alliance provides ever bit as much to build their market economies and their democratic institutions as Western Europe did these last 40 years. While they would like to see membership, ask them how they would feel if there were no NATO and how secure they would feel.

Even without them being members, they are the strongest proponents for keeping the Alliance around because it provides them stability. If you ever have to deal with an issue such as implementing a peace plan in Bosnia-Hercegovina or dealing with some other crisis, there is just no other organization. The WEU is nowhere near being able to do that as far as their capabilities are concerned.

I am confident that NATO will be around as a viable organization providing we do not get frustrated and throw it out out of frustration as opposed to because it is time for NATO to go.

Mr. VISCLOSKY. Thank you very much. It is good to see someone who is almost a countryman.

Mr. MURTHA. Mr. Darden.

Mr. DARDEN. I would yield to the distinguished gentleman and be glad to follow him.

FORCE STRUCTURE IN EUROPE

Mr. LEWIS. Welcome. I, too, very much appreciate your presence. In tough economic times, to say the least, America and Americans tend to turn inward rather than otherwise and challenges in the European theater, Eastern Europe especially, are very important to all of us. First, I hope you will help me explain to some of those constituents who might be concerned with what is the military threat in Europe today? Do you believe that the current force structure in Europe is sufficient to meet the threat as you see it?

General SHALIKASHVILI. Yes, sir. I think I would say that the military threat has changed dramatically, and where before we were concerned simply with the onslaught from the East, the threat from the Warsaw Pact and the former Soviet Union, that has been replaced, I think, by a whole host of instabilities and religious strife, and just plain settling of scores, of economic collapse in certain nations. The situation in the former Yugoslavia is a very good example, but it stretches from Nagorno-Karabakh to Georgia to Kirgizstan and elsewhere.

It is the religious fundamentalism, the terrorism, the drug issues that are the things that I hear Europeans being concerned about. But having said that, I must tell you that with the events ongoing in Russia right now, I don't think you can totally exclude the possibility that the wrong forces in Russia would gain the upper hand. I hope not, but I think as a commander responsible for the security of——

Mr. LEWIS. Do you have to consider that as a contingency?

General SHALIKASHVILI. Yes. But I think if you ask the person on the street in Europe it is more than Yugoslavia that worries them. The danger is not only because of the horrible things ongoing in the Bosnia-Hercegovina, the danger is that somehow nations will be drawn into that.

The history of the previous Balkan wars showed that people on opposite sides of the issue inadvertently get drawn in. That is why I know the Chairman is concerned about the widening of the conflict and what happens if even Alliance members who might come down on opposite sides of the issue for reasons that they don't control get drawn into it.

Mr. MURTHA. Are there suggestions you can make about strategy of deploying NATO forces to Macedonia or to Albania that might send a signal to Serbia that we are serious or would that have no effect on what is going on? The latest information we have is that Macedonia and the Crimea could probably be the biggest concern. Kosovo has slowed down.

Do you know what the impact would be if the President decided to deploy or recommend to NATO that they deploy troops in any of those places?

General SHALIKASHVILI. As you know, there are now hundreds of soldiers from the Nordic nations who are deployed in Macedonia.

Mr. MURTHA. That is not part of NATO.

General SHALIKASHVILI. No, it is not. The troops there are a part of the United Nations UNPROFOR efforts. But they are NATO members. The first ones to go in were Canadians. I have always maintained that it might be an awful idea to send peacekeepers somewhere before the peace is brokered.

Mr. LEWIS. It might be an awful idea, yes.

General SHALIKASHVILI. I thought that Macedonia was certainly a case in point. What made Kosovo difficult is that you can't deploy them there because Serbia controls Kosovo.

The numbers in there now seem to be doing the job for the moment, but that does not exclude the possibility that if tensions rise they should not be reinforced. I have no problem with NATO doing it, and if in fact we do, some kind of a peace agreement for Bosnia-Hercegovina, and the United Nations turns to the Alliance to help implement that peace, then the thought process is that the Alliance would take over not only what is going on in Bosnia-Hercegovina, but everything going on in former Yugoslavia, Macedonia and also the peacekeeping operation that is ongoing in Croatia at the moment.

RULES OF ENGAGEMENT OF UN OPERATIONS

Mr. MURTHA. I assumed you would operate under different rules of engagement than the UN operation is under.

General SHALIKASHVILI. We have asked for new rules of engagement in case we do that. That would allow us self-protection that we need and allow us to operate vigorously in case there is someone who threatens to or uses force to keep us from doing the job the UN sent us in to do.

Mr. LEWIS. You urge that we recognize that while the down-sloping is taking place, it is important to maintain a level downslope rather than going off a cliff in terms of available force. We tend to presume that everybody understands how important our work is.

I hope that you don't make that mistake in terms of your work. The American public is concerned about troops in Europe and wonder why we are spending that money in the first place. It would be a mistake if you and your forces thought that we didn't have a problem communicating the significance of your responsibilities.

Relative to downsizing, one of the arguments here is that our intelligence budget is too high and should be downsized at least at the same pace, if not more rapidly than the defense budget. Do you believe the intelligence budget is adequate to support your peacetime, as well as those contingencies you have been discussing?

General SHALIKASHVILI. I am concerned about intelligence in general. During the last 40 years we built intelligence systems that are very good at detecting massive armored formations coming across the central European plains. ———.

Mr. MURTHA. On that point, do you have any recommendations about what systems could be improved either way?

General SHALIKASHVILI. No. I do not have specifics. I have urged and I think there is very good work being done to reorient intelligence from those cold war capabilities to the capabilities that would help us more in places like the former Yugoslavia, Iraq or Somalia. As I look at the reorientation of the intelligence budget, at least that piece that I have any kind of visibility of, I am very encouraged that the right redirection is being done and that people recognize that.

I would say that General Powell has been very instrumental in making sure that support of those kinds of operations receives the requisite amount. Beyond that, I cannot tell you.

Mr. MURTHA. I appreciate what you are saying because this Committee got a substantial amount for intelligence and redirected it. We heard from the CIA, but we think those are the kinds of programs that need to be reinforced.

If you have recommendations about any system you feel should be changed or increased, we would be very interested here.

Mr. LEWIS. Do not take for granted that automatically those problems will be understood. If you could supplement for the record recommendations that would be helpful.

[CLERK'S NOTE.—Classified insert removed.]

General SHALIKASHVILI. ———.

Mr. **Lewis**. We have had a tendency to cut back on the human side of this so your comments could be helpful to us as one is preparing for possible involvement in the war in Bosnia.

How important do you feel it is for the intelligence community to develop and acquire a capability to do broader image coverage?

General **Shalikashvili**. I would have to think about that. I don't know if you are referring to some specific system ———.

Mr. **Lewis**. Let me ask about specifics. The outyear cost for developing and maintaining JSTARS and the U-2/TR-1 aircraft are considerable. How important are these assets?

General **Shalikashvili**. JSTARS would be among one of my highest priorities. I think having seen it operate as a prototype model in Europe and having flown on it and having seen the tape from it and having read reports of its operation during Desert Storm, I have always been of the opinion that that ought to be a very high priority for us.

Mr. **Lewis**. Mr. Chairman, you have been more than generous with time with me. I would like to say to the General there are incredible jobs and incredible times in life to have. You have one of the more fantastic jobs I can imagine.

Mr. **Murtha**. Mr. Darden.

ENVIRONMENTAL CONCERNS

Mr. **Darden**. Thank you, Mr. Chairman. Some of us had occasion last year to visit some of those areas in which the Soviets have evacuated their troops and vacated various military bases. We went to a base in the area of Dresden and went to another on the outskirts of Prague.

As you know, most of the countries are very upset with the former Soviet Union, regarding the condition in which they left those areas.

I think you will agree with me that it is important that as we vacate areas and draw down our forces we leave a good impression with our host countries. I assume that this falls within your overall responsibility and that you have taken great personal interest in this area.

Could you give us an overview of what we are doing and what preparations we have made to leave the areas in good condition, what environmental concerns, if any, have been observed and could you just summarize the situation for us?

General **Shalikashvili**. Yes. I would tell you first that there is absolutely no comparison between U.S. forces leaving an installation and Russian forces leaving an installation.

It isn't only an issue of how we have cleaned it up before we left, although there is a great difference in that, as well, but it is also an issue how we have over the years taken care of our servicemen and women and what kind of installation we gave them to live and work in and what kind of housing as opposed to what the Soviets did in the old days.

No amount of cleaning and scrubbing on their part would bring an installation that they are leaving to the standards that the U.S. is leaving them. We should take great pride in that fact, that there hasn't been a single issue anywhere about the cleanliness or the conditions with which U.S. forces leave installations in Europe.

As a matter of fact, I think you could characterize it as great praise for how we take care of things. That is not to say that there aren't some environmental issues there in some places. I think that I am not aware of any of the catastrophic issues that occasionally are mentioned in the press, but we do have issues, whether that is a gas station that for many years did not have a double-walled underground tank and some leakage occurred and we need to fix it or similar problems.

We catalog those where we have them, where it is necessary to fix them we are fixing them. Where it isn't necessary, we have an agreement with the Germans that we negotiate as we turn over an installation. If there is work to be done for environmental damage that is taken into consideration as a we compute the residual value of an installation.

I think you could go with great pride to any installation that we are about to turn over in Europe. I think you would find it is a night and day operation between what is happening on former Soviet bases.

I might say that we are turning over a great number of installations in Europe. And I was just looking here for the exact numbers because I think it is a significant number. We started out with some 1,386 installations, pieces of land and some are very small and some are brigade size operations.

We have as of today, we are down to 969 and by the time we will finish in 1996 we will have turned back 47 percent of all of our installations. So I think it is a dramatic reduction. I pointed it out not only because there are lots of installations, but also that it is an awful lot of work to turn over those installations in good condition and then negotiate each for residual value. I am very pleased with the way the process is going when you consider the magnitude and how much this is a symbol of how we have taken care of our people over the years and how well they have maintained and kept up that which our country gave them. So I think it is pretty much a success story.

Mr. DARDEN. Thank you, Mr. Chairman. That is all I have.

Mr. MURTHA. Mr. Dicks.

FORWARD DEPLOYED FORCES

Mr. DICKS. General, I want to welcome you to the Committee. We knew that when you left Fort Lewis as Commanding Officer of the 9th division that you were going to do well, but you have done very well.

We appreciate the great job you have done for the country. I want to go back to a couple of things of a personal concern. We are going to basically bring down our forward deployed forces, as I understand it, in Europe to approximately 100,000 or is it 150,000. What is the current thinking?

General SHALIKASHVILI. It is, I understand, the will of the Congress that we bring it down to 100,000 by the end of 1996.

Mr. DICKS. Is that in legislation?

General SHALIKASHVILI. Yes.

Mr. Dicks. Do you agree with that or would you prefer another 50,000?

General Shalikashvili. I mentioned earlier that I agreed with the number under some provisions. Surely, I would feel more comfortable with 150,000 in the force described to you last year by General Galvin.

I agree with going to approximately 100,000, providing that we maintain a glide path to get to it the way it is now laid out, that we will not reach it until 1996. It gives us an opportunity every year to take a look at the security situation in the European theater to see if it is in the best interest of the U.S. to continue on that glide path. If the security situation is such that it is, so be it.

Mr. Dicks. Where are we now?

General Shalikashvili. Today to the best of my knowledge we are at the 173,000. We are going to go by the end of this year, fiscal year 1993, to 163,100. By the end of 1994, to 132,200 and by the end of 1996 we have been asked to go down to approximately 100,000.

Mr. Dicks. Are you going to take the equipment out at the same time, or will we leave a certain amount of pre-positioned equipment so we could bring the forces back in and utilize it, POMCUS?

General Shalikashvili. We will leave some POMCUS equipment there, not the same amount we had before. The requirement previously was for a force structure that we now don't envision bringing back. But I will like to make sure that we have all the equipment pre-positioned to be able to reconstitute ———.

Mr. Dicks. How many divisions?

General Shalikashvili. ———. So I think it is an absolutely essential piece of that 100,000 that we have to pre-position equipment to bring those units that are not fully deployed in Europe. For instance each division that would have only two brigades forward and one in the U.S., would have the brigade set in POMCUS. That is essential and we plan to do that now.

It will however reduce POMCUS from what it is today and will reduce the number of humidity-controlled warehouses. I think it is prudent to do that considering how much it costs to maintain those warehouses over there. The increased warning time allows us to reduce the amount of equipment that we have pre-positioned.

Mr. Dicks. If I remember correctly, somebody told me they couldn't get back as fast as they would like. There is a lot of equipment still stationed in Europe that they would have liked to have brought back and turned over to the National Guard. What is the status, do you know?

General Shalikashvili. Yes, sir. When we went on the steep ramp of reducing forces in Europe, particularly army forces, we had large numbers of our forces in Saudi Arabia. If you recall we sent 7th Corps from Europe to Saudi and that corps took equipment with it. We shipped much of our POMCUS equipment to the desert, to include all of our tanks, all of our Bradleys, to provide the best and newest equipment to those divisions that had come from the U.S.

When this was all being retrograded and the equipment was being returned to Germany from Saudi we were at the same time sending great numbers of people home. Someone here mentioned we were sending 500 soldiers and their family members every day.

It was absolutely impossible to clean up the equipment, repair it and ship it back to the U.S. at the same rate.

As a result today you have massive amounts of equipment in Europe that still needs to be brought back to the U.S. in 1993, it was our judgment that the expense of repairing it, shipping it back and so on was in the vicinity of, I believe, $200 million and I have to give you the exact number for the record.

Until we get the requisite funds to do so, we cannot ship all of that equipment back. We need the ships to ship it back. The point that you are referring to, Mr. Chairman, was that there was initially a thought that we would repair this equipment in Germany and have the money go to German firms to repair it.

A better idea in my judgment is to ship that equipment to the U.S. Give that work to American firms and the National Guard as opposed to paying German labor to repair that equipment. I think we need the requisite amount of money to put this equipment on ships and ship it back to the U.S. so it can be repaired here and Americans can earn the money.

Mr. Murtha. Give us the figure and we will see if we can't increase the amount of money available to you.

[The information follows:]

The U.S. Army, Europe retrograde, Europe projections, exclusive of overseas transport cost (HQDA funded) are:

Fiscal year:	*Million*
1993	$87
1994	70
1995	41
Total	198

HUMIDITY CONTROLLED WAREHOUSES

Mr. Lewis. Would you explain to me a little more about humidity-controlled warehouses?

General Shalikashvili. Much of the equipment that we have over there, for instance, take a tank, it has on it optical equipment, fire control equipment and so on. So over the years NATO, not the U.S., but NATO, has built with NATO infrastructure money, humidity-controlled warehousing to put our POMCUS equipment into.

Mr. Lewis. Do we have any such warehouses in the U.S.?

General Shalikashvili. I am sure that we do at some depots.

Mr. Lewis. The National Training Center for the Army is in the desert. One of the arguments about that location very much relates to weather. We are currently discussing some reorganization of location of air facilities for the Marine Corps, where they might put them is of interest. So that point is important to me.

General Shalikashvili. Over the years, sir, NATO has built in the vicinity of 200 humidity-controlled warehouses for POMCUS equipment. Over the years, we have paid the O&M costs for the POMCUS sites. Last year, the NATO ministers agreed, in principle, that the O&M costs were eligible for NATO infrastructure funding and the O&M projects could compete with other projects for the available infrastructure funds. So whatever warehouses eventually we will maintain, hopefully, we will also get the Europeans to pay for out of NATO infrastructure funding.

Mr. LEWIS. Mr. Chairman, I would like to have somebody on our staff help me better understand those kinds of warehouses and how they are used in the U.S. It is relevant to the proximity development.

Mr. DICKS. General, in your role as the Supreme Commanding Officer of NATO, you obviously have had an opportunity to think about and we have heard from General Galvin in the past, about the future of NATO, what NATO's new role will be, what the U.S. role in NATO is.

Could you provide us your vision of the future, and your view of NATO's role in the disturbing situation we have in Bosnia, as well as how to deal with the Kurdish situation and Somalia ———?

General SHALIKASHVILI. First, I have to tell you, sir, that in my mind NATO an the U.S. are inseparable. That is to say that I cannot envision the Alliance surviving if the U.S. should ever turn its back on the Alliance or on Europe.

On the other hand, I must tell you that I am absolutely convinced that the U.S. has few greater interests than the stability and security in Europe and that it achieves that through its leadership role in NATO.

And so I am with General Galvin, who has repeatedly stated that if there is a lesson of this century, it is in fact that when the U.S. and Europe went their separate ways, both of us in Europe and on this side of the Atlantic paid a terrible price for it, and that we achieve our leadership position in Europe through the Alliance.

We can talk about our economic linkages and about our common heritage or even bilateral arrangements, but it is through the Alliance, through the glue that is provided by the Alliance that we in fact exercise our leadership and we become a European power without owning or coveting a single square inch of European territory.

I think that as long as the U.S. is prepared to retain the leadership role in Europe, the Alliance will survive because there is simply no alternative in a Euro-Atlantic region, no alternative security organization that possesses the tools, the infrastructure, the shared experience, the command structure that the Alliance possesses.

Whether that is to use it in crises like former Yugoslavia, whether that is to defend NATO territory or whether it is to use it in peacetime to work such issues as military-to-military contacts and other cooperative programs with the Russians to ensure that we overcome animosities and distrust—I am very positive on the Alliance as long as the U.S. doesn't walk away from it.

Mr. DICKS. This is what I worry about. Every year we face an effort by some in the Congress to in essence bring the U.S. home. I think it is naive, driven by a concern about money. Is it your judgment, that it is in our overall security interest, without a shadow of a doubt, to keep at least 100,000 troops in Europe. At some point if you keep cutting that number, don't we lose influence?

It seems to me that if you are going to be the leader of this Alliance, you must have commitment.

General SHALIKASHVILI. I think there is no doubt that the degree of leadership you can exert in Europe is proportional to the amount you are willing to pay for it. Part of that is the kind of force you are prepared to station in Europe that interacts day in the day out with the Europeans. It cannot be replaced by flying someone in for a day or two. It is training that allows us to have the leadership role. It is not a fixed number.

As conditions change, the number increases or decreases. Depending on the security structure, how many forces the Europeans maintain, et cetera, I think that we are probably on the right glide path considering the difficulties we have here and what needs to be done. The Europeans have accepted that.

Mr. DICKS. Are you satisfied with the European level of effort? We are making a dramatic reduction in our force structure, we are downsizing in the post-Cold War area. Are you satisfied with their level of effort in maintaining their forces?

General SHALIKASHVILI. Numerically when you look at it, other than two countries, the Belgians and the Dutch, the Europeans are reducing their forces considerably less than the United States is reducing their forces in Europe. Their overall range is up to 32 percent. That is only half the story.

The other story is that much of their force is made up of conscripts. In many European countries, their laws prohibit sending a draftee outside of the country on an operation other than in a defense of NATO territory unless that young man or young women volunteers for it. ———.

BOSNIA SITUATION

Mr. DICKS. Are you frustrated with the handling of the situation in Bosnia, or are you supportive of the position I think that General Powell and others have taken; that it is very risky and dangerous for the United States to consider direct military involvement in Bosnia in other than a peacekeeping role.

General SHALIKASHVILI. I tried to be very clear from the beginning. I believe from the first day that there was no military solution to that tragedy in former Yugoslavia, that we should not under conditions that some people suggested have been sending either American young men and women or from any other country there. That did not mean that there weren't things American forces couldn't do to alleviate the situation. Whatever you have heard from the media to the country, the airdrops we are conducting have been extraordinarily accurate and have done a good job.

The question before us now, sir, is, as we enter the possibility of a peace plan for Bosnia-Herzegovina, should the alliance be willing to help the parties implement the agreement providing there are some preconditions, that is, that all parties sign up to it, that they demonstrate a level of ability to control the fighting. Under those conditions, I believe the alliance should be willing to help implement the peace agreement.

I am encouraged that we have had a few days of cease-fire that seems to be holding despite the fact we didn't have a number of peacekeepers in there. I see that as using military force help implement a peace plan.

Mr. DICKS. Is that basically the consensus among European members of NATO? I assume they share the same view of the problem, which is why they have been reluctant to get militarily involved themselves.

General SHALIKASHVILI. There is agreement that unless the parties are willing to reach peace, there is no way that we are going to beat them into loving each other, we should not go in under those circumstances. I think this is universally true of the responsible leaders in Europe.

Mr. DICKS. If we were going to have a significant peacekeeping force, where would the troops come from? Would they come from Europe?

General SHALIKASHVILI. If we have a peace plan and good portion of those would come from the American contribution. I presume many would come from Europe, although some CONUS units may be selected because they have a specialty that I might not have in Europe.

Mr. DICKS. What number of U.S. forces might have to be committed?

General SHALIKASHVILI. I don't know. As Supreme Allied Commander, I sent out a message early this week to all the nations asking them for their contributions. I do not have an answer yet from the United States. I think it was Monday I sent a message to all nations asking them how much they would contribute.

Mr. DICKS. The Washington Post had an article, in the event a peace accord is reached in Bosnia, NATO's preliminary plan calls for sending 64,000 peacekeeping troops. Mostly mechanized infantry units, augmented with a smattering of tanks, would be sent according to a senior NATO commander for Southern Europe. Is that accurate?

General SHALIKASHVILI. ———. None of us have seen the final peace plan. What you will need depends on what tasks you will have to perform on the ground.

For instance, if the peace plan calls for moving everyone from territories they have captured back to other areas, that is a different number than if the peace plan comes out and says, Freeze everyone in place. ———. But it will have to be scrubbed against the final agreement that the three parties sign.

Mr. DICKS. It says, another officer at the U.S.-European Command said—I've heard everything from 5,000 to a corps of roughly 30,000 U.S. troops possibly participating. ———.

General SHALIKASHVILI. I think it may have been a young staff officer guessing. General Powell has not told me what the United State's number would be. ———.

Mr. DICKS. Your recommendation would be based on what the assignment is?

General SHALIKASHVILI. That is right.

C-17 AIRCRAFT

Mr. DICKS. It seems to us and with your vast Army experience, it must appear to you as a CINC, that airlift, sealift, and prepositioning becomes even more important as we downsize and bring forces back to the U.S.

The Chairman and this Committee have taken the lead in creating a fund in the defense budget for additional sealift and prepositioning. An item of transfers in the Congress is the C–17. I have been a major supporter of this aircraft, an aircraft not built in Seattle. My support is on good policy grounds.

General SHALIKASHVILI. I have always known you to be very impartial.

Mr. DICKS. A slight favor, but since we didn't get to build it and we need it, I think it is very important. You just said it will be crucially important to be able to get those forces and equipment back into Europe. Do you still think the C–17 is a major requirement that needs to be fulfilled?

General SHALIKASHVILI. There might be an alternative, but I am not familiar with any. I think the C–17 is absolutely crucial when you look at our aging fleets. General Fogelman is more competent to talk to that issue. The C–17 is one of my highest priorities. It gives me increased access to airfields (formally only C–130 capable) and it replaces our aging C141 and C–5 fleets. I see no alternative.

Mr. DICKS. What are your other high priorities?

General SHALIKASHVILI. We mentioned JSTARS earlier and the other one is theater missile defense. As I look south from where we sit in Europe, as I look towards Iran, Iraq, from where I sit in Europe, I think theater missile defense is absolutely key.

Mr. DICKS. I think that is the sense in the Congress and we have proceeded for ten years on SDI. But, I think the one point without controversy is the notion that theater missile defense made the most sense because of the need to protect our own forces in a combat situation as we saw in Iraq. I believe it is very useful to have that kind of defense.

How we can defend the United States still must be determined, but at least in my mind, there is no doubt that we must have theater missile defense.

General SHALIKASHVILI. As we saw in southern Iraq the problem began last fall. The first thing that Kuwait and ——— called for were the Patriot missiles out of Europe. They are just now beginning to come back. I have had them sitting there since last fall, over Christmas, because I think they need to be protected. I look at a theater missile defense policy as one of our most important priorities.

Mr. MURTHA. Mr. Young.

THEATER MISSILE DEFENSE

Mr. YOUNG. Thank you, Mr. Chairman.

All of us have something we keep bringing to the forefront regularly. One of those things in my mind is lack of human intelligence. I wanted to thank you for the statement that you made earlier on the need to upgrade and improve our human intelligence. I may quote you from time to time because I am determined that some day we will have a better human intelligence capability than we have today.

I would like to follow up on theater missile defense. Yesterday, in a hearing for this Committee, a witness told us that there are approximately 66 Third World countries that have some type of a cruise missile. We were a little shocked and surprised at that number, but they stuck by their position and said that, yes, there were 66 countries. Number one, do you think that is a fairly accurate assessment——

General SHALIKASHVILI. That is not a number I have ever heard before.

Mr. YOUNG. We weren't sure that 66 countries had cruise missiles? We weren't exactly sure what all types of missile they were including in that mix. Anyway, even if they are half right, that is quite a threat.

What is the status today of our ability to protect our troops who are stationed in Europe under your command from any type of attack by one of those missiles?

General SHALIKASHVILI. ———.

And I think that because of that, and whether it is 66 countries that have some capability or another, we all agree that there are sufficient countries that have capability to attack us with a missile system for which we need a defense better than what we have right now. That is why I consider TMD—theater missile defense—such a critically important item.

Mr. YOUNG. Is there enough activity in that area?

General SHALIKASHVILI. Other than what I read in the papers, I don't know of anything other than the efforts on the ground now.

Mr. YOUNG. Are you familiar with the testing that the Israelis have recently done with the Arrow system? I read something and it wasn't very conclusive in being optimistic that the Arrow system was coming along very well.

General SHALIKASHVILI. I read an article in the open press that not only spoke to it but expressed criticism about its weights and maneuverability. Beyond that, I don't know enough about it to comment.

Mr. YOUNG. Our theater missile defense could stand a lot of upgrading and improving, I gather.

General SHALIKASHVILI. I agree.

Mr. YOUNG. We all acknowledge that the threat probably has decreased considerably in your theater.

General SHALIKASHVILI. The threat has decreased from the former Soviet Union and from the Warsaw Pact. The threat has not decreased when you look at the Third World countries, whether that is Iran, that seems to be making a concerted effort to increase its capabilities or whether you are going to North Africa. So, yes, from the Soviet Union and Warsaw Pact, it has decreased. From the less responsible people, it has probably increased.

Mr. YOUNG. The new Director of Central Intelligence said, we killed the bear but a hundred snakes appeared in its place.

From your vantage point, what type of intelligence do you have that would suggest that there might be an imminent danger to U.S. forces stationed somewhere in the NATO theater?

General SHALIKASHVILI. ———.

Mr. YOUNG. You said you believe that had it been possible to station a U.S. division in the Arabian Gulf region in early 1990, we may not have had to fight Desert Storm. As we bring troops home, are we creating other situations where hostilities might be prevented with our presence but might occur in our absence?

General SHALIKASHVILI. I really believe that if we are selective in where we station forces forward, we can in fact prevent conflict from starting. There is no guarantee, but I think in places it is a good insurance. Certainly in Europe it is a good insurance as far as security and stability and the further development of Europe is concerned; stationing troops makes sense. I think it is a relatively low-cost insurance policy to see that Europe and now the new Europe east of the former Wall, that it also develops along the lines of market economies and democratic institutions. It is in that sense that I think it makes sense.

I also do not exclude the possibility that had we had something stationed in the Gulf, we might not have had a trouble spot. I am not a proponent for stationing people all over the world, but sometimes it makes sense.

PREPOSITION/WAR RESERVE MATERIEL

Mr. YOUNG. As our force gets smaller and smaller, we don't have adequate air and sealift. The more you have prepositioned, the quicker you can respond in the event that you had to. I agree, and I don't think we have any disagreements at all on that issue.

As you draw down the U.S. force in Europe, are you drawing down the pre-positioned supplies that are there at about the same ratio?

General SHALIKASHVILI. Yes, sir, we are. Because what we maintained before was clearly equipment that was an amount suitable for engaging just the Soviet Union. I think there is a cost of maintaining that equipment over there that we ought to reduce and I think if we do this prudently, and in a measured way, we can draw that down. So that is my intent to do so, but leave enough there to make sure that those forces we need to bring back quickly can fall in on that equipment.

Mr. YOUNG. I know you are watching very closely what is happening in Russia, knowing that Mr. Yeltsin may or may not be in the seat from day to day. Are you making plans for a resurgence of militancy in Russia that could become an almost immediate threat to the NATO area?

General SHALIKASHVILI. My sensing is that the danger is not as great as some think, at least in the near term. My sensing is that, first of all, the jury is very much out whether President Yeltsin will be able to pull this off, and I personally think that probably he will be, and that is that he would be able to continue both the democratic and the market reforms.

Mr. MURTHA. Pull off what, General?

General SHALIKASHVILI. To continue the market reforms. Secondly, I am encouraged by my contacts with men like General Grachev, the Defense Minister, who at least sound like he is really committed to keeping the military out of this political struggle and make sure that the military is not drawn into this thing. If he is sincere and if he succeeds, I think that will go a long way towards ensuring that Russia continues with ups and downs maybe, but on the right course.

Finally, I think that the Russian military and the Russian economy are now in such condition that it would really take an awful long time to threaten the West. That is other than nuclear weapons, because they are there and they are like they have always been. So I think in that area where—that is where we have to remain on our toes. But conventionally, I think it would take them some time to muster the ability to threaten us as they did in the past.

Mr. YOUNG. The irony is the United States helped reduce the threat but the number-one threat that was aimed at the United States is still there.

Mr. MURTHA. Mr. Skeen.

SITUATION IN YUGOSLAVIA

Mr. SKEEN. Thank you, Mr. Chairman. General, delighted to have the opportunity to visit with you.

We keep referring to this Yugoslavia situation as a European problem. What is your assessment of how much help the so-called European Communities are willing to offer? What are their relative positions? I am particularly interested in the position of the French, the British, and the Germans.

General SHALIKASHVILI. First of all, I think today there are some 20,000 military personnel in former Yugoslavia from some 23 countries, and I might be off one or two, but I think that is about right, many NATO countries.

The French are certainly in former Yugoslavia, the Brits are there, the Germans are not. I am sure you are aware of the unique——

Mr. SKEEN. There is an anathema to the Germans being in Yugoslavia. I understand the historical significance.

General SHALIKASHVILI. First, they have a constitutional problem which I think the Germans are trying to resolve correctly. They are trying to get this restriction lifted so they can participate.

The other day they agreed to participate with the United States in airdropping humanitarian supplies to the people in Bosnia-Herzegovina.

The Serbs could not have been more vocal that they don't want the Germans participating anywhere. They threatened to not only shoot down the German airplanes, but the American airplanes flying with them.

The United Nations put down its foot and said we are not going to be blackmailed and told the Germans they could fly. That points out the difficulties the Germans have.

As far as implementation of a peace plan, I told you that I just sent out a message asking countries what they would contribute.

———.

European participation will be there. I think we have to see just how many they will contribute to the operation. It is a little early to tell. But I have no doubt that Europeans will be there in Bosnia-Herzegovina.

Mr. SKEEN. But the key and the matrix that holds it together is the United States?

General SHALIKASHVILI. On the one hand, it is the participation; on the other hand, it is also the leadership. If the United States were not to participate, I am convinced that the Europeans would not do any more than they are doing now, which isn't insignificant.

Mr. **Skeen**. There are severe limitations as far as the French are concerned.

General **Shalikashvili**. The French have limitations on how many volunteers they have in their military that they can send. The British have so many in Northern Ireland and they have people in the Balkans that for them it is not the volunteers that are the problem, but the total number committed. ———.

GREECE AND TURKEY PARTICIPATION

Mr. **Skeen**. What about the other members of NATO, any significant potential?

General **Shalikashvili**. ———.

Mr. **Skeen**. We keep characterizing this as a European problem and the greatest exposure to a catastrophe would be in Europe. I am concerned about their commitment and how viable it is if we are not the linchpin that holds it all together.

General **Shalikashvili**. I think that we are going to have to cross the issue on whether the countries like ——— can participate.

Mr. **Skeen**. Does that involve the Greeks because of the Turks ———?

General **Shalikashvili**. ———. But at every opportunity I stress that point and we need to come to closure on it because those are great contributing nations that otherwise would be locked out.

But it is not completely out of the hands of the Serbs and the Croats and others in the country, because we are going on the assumption that we are not going to force anyone on them.

Mr. **Skeen**. There has to be an agreement. Thank you very much, Mr. Chairman.

Mr. **Murtha**. Thank you General. We will have additional questions for the record.

The committee adjourns until April 20th.

[Clerk's note.—Questions submitted by Mr. Wilson and the answers thereto follow:]

OFFSHORE PETROLEUM DISCHARGE SYSTEM (OPDS)

Question: Has there ever been, within the United States European Command a requirement for the Offshore Petroleum Discharge System (OPDS)?

Answer: Yes, our previous planning called for two Offshore Petroleum Discharge Systems.

Question: What is the current requirement for Offshore Petroleum Discharge Systems for United States European Command?

Answer: The preliminary requirement is for a minimum of two systems under current planning.

Question: If there is a difference between answers one and two, please explain the difference?

Answer: Two OPD systems were required under previous United States European Command planning. One system supported employment of one mechanized infantry division in the Southern Region; the second was designated to provide OPDS capability at any one of several key shore installations in the northern and southern littorals. Based on current planning, there is a minimum requirement for two OPDS in support of potential operations in the Southern Region.

[CLERK'S NOTE.—End of questions submitted by Mr. Wilson. Questions submitted for the record and the answers thereto follow:]

EUCOM—EUROPEAN COMMAND—ROLES AND MISSIONS

Question. The Joint Chiefs of Staff are currently reviewing the requirement for multi-theater commands. Although logistically challenging, DESERT STORM demonstrated that the U.S. could deploy a CONUS based Unified Command to a regional crisis.

If we did move EUCOM to CONUS, what types and amounts of prepositioned war reserve equipment would need to be maintained in Europe to adequately respond to a regional crisis?

Is there still a requirement to maintain the same operational tempo of peacetime maritime activities in the Mediterranean Sea?

Answer: A force of approximately 100,000 is the minimum level of forward deployed forces that must be maintained in Europe to meet our National Security interests. The current planned level of prepositioned equipment augments our forward deployed forces. No affordable level of prepositioned war reserve equipment could be maintained in Europe that would serve as an acceptable substitute for forward deployed forces.

Security of the Mediterranean and open lines of communication are critical to U.S. National Strategic Interests. Therefore, the requirement for maritime presence in the Mediterranean Sea has not diminished at all. The Naval component makes up the preponderance of the immediate combat forces available in the USEUCOM Southern Region. Maintaining the operational tempo not only keeps our forces at a high state of readiness, but it demonstrates our capability and deters would be aggressors. Our almost continuous naval presence has been able to quickly respond to crisis. Just recently, our Mediterranean Naval forces made a rapid transition from peacetime training to operational missions enforcing the U.N. no-fly zone over Bosnia-Herzogovinia. However, future presence will be decreased ———. If anything, this dictates a need to increase operational tempo of peacetime maritime activities in the Mediterranean so U.S. presence is as visible as in the past and personnel are just as familiar with performing their mission in the Mediterranean.

EUROPEAN THREAT

Question. In the past four years the threat in the United States European Command theater has changed from a known, quantifiable threat to various uncertain and unpredictable threats. The Russians are having a difficult time providing the infrastructure required for their forces that are withdrawing from Eastern Europe. For example, there is inadequate housing in Russia for the troops returning home. In your opinion, will this inability to support the withdrawal slow down the schedule that was agreed upon?

Answer. Russian Minister of Defense Grachev has already announced the withdrawal slow down for Baltic states. It is unlikely that infrastructure problems will affect the continued withdrawal of the remainder of troops in Germany and Poland.

Question. How many troops do the Russians have today and where are they located?

Answer. There are 1.5 to 2 million troops in the Russian military today. There are still Russian troops in the Caucasus states, Central Asia, the Baltics, Moldova, Ukraine, and Belarus, albeit in very small numbers in some instances. There are fewer than 30,000 Russian troops in the three Baltic States, a Naval Infantry Brigade in Ukraine, Strategic Rocket Forces troops in other states of the FSU. Ground units withdrawn from Germany and the Baltic states are providing the core of new forces in western Russia.

Question. How would you assess the readiness of troops in Russian and Eastern Europe?

Answer. Troop readiness in Russia and Eastern Europe is low. Defense spending has been significantly reduced over the last three years in all states. Little is being spent on training. Equipment is outdated and in many cases in poor states of repair. Most importantly, morale and leadership are lacking.

Question. The Clinton Budget does not eliminate the development of procurement of any large weapons systems. As one of the Unified Commanders, what do you see as your top three priority weapons systems under development?

Answer. My top three weapons systems that are currently under development would be the C–17, a Theater Missile Defense (TMD) capability, and the JSTARS aircraft. ———. The C–17 will improve both our strategic and intra-theater lift capability. A TMD capability will allow us to protect our forces and key installations from the growing theater missile threat. Our DESERT STORM experience clearly shows the value of JSTARS as a force multiplier. JSTARS literally provides the ground commander the same look at the enemy's ground order of battle as AWACS does for the enemy's air order of battle.

FORCE LEVELS IN EUROPE

Question. Last year General Galvin told the Committee the European base force level of 150,000 is the minimum Army, Air, and Naval package to meet our NATO commitment and to respond to non-NATO contingencies in and around your area of responsibility. What is the total number of U.S. troops in Europe today? What is the projected end strength for each service by FY94?

Answer. The total U.S. military permanently stationed in Europe is 172,800 military personnel (105,000 Army, 54,7000 Air Force, and 13,100 Naval). At the end of FY94, European Troop Strength (ETS) is projected to be 132,200 personnel (74,900 Army, 46,000 Air Force, and 11,300 Naval).

Question. What will be the total cost of this end strength, by service, for FY94?

Answer. The total direct funding requirement for United States European Command and the three Service components—U.S. Army, Europe USAREUR—U.S. Air Force, Europe USAFE—and Navy, Europe NAVEUR, is $5,122 million. The figures include operation and Maintenance, Military Construction, Family Housing

(Construction and O&M, and other). The requirements by Service are:

[In millions]

	HQ USEUCOM	USAREUR	USAFE	NAVEUR	Total
O&M	$62	$2,800	$1,038	$309	$4,209
MILCON	1	45	10	37	93
Fam Housing	0	430	193	79	702
Other	74	34	8	2	118
Total	137	3,309	1,249	427	5,122

Question. Do you see an end strength of less than 100,000 in United States European Command as we draw down to a smaller overall force? Can we afford to maintain a high European force level, without degrading readiness and the quality of our troops in the United States?

Answer. Based upon Congressional action during the FY93 budget process and the direction to reduce European troop strength to 100,000 in FY96, we evaluated various force options against how much risk we could accept and still perform our mission. We have developed a CREDIBLE COMMITMENT force to meet this resource constraint. This force is the lowest level the U.S. can afford to go without risking the loss of leadership in NATO. NATO is the primary channel of U.S. influence in European security. With U.S. leadership of NATO, Europe has experienced over 40 years of peace and the demise of oppressive, dictatorial governments. The alliance has also been our stepping stone to closer relations with Eastern Europe and the defender of our gateway to Africa and the Middle East. Acceptance of U.S. leadership has been based on our contributions to the alliance. No nation can match the quality of our systems and the depth of our reinforcement potential, but it is our forward presence that our allies look for as an indication of our commitment and it is that same forward presence that deters any radicalism in the region. CREDIBLE COMMITMENT was designed to provide a force to fulfill our obligations to the alliance, handle foreseeable contingencies, receive reinforcements, and sustain a theater base infrastructure. At force levels below 100,000, we will cease to be viewed as a major contributor to the Alliance, and our presence becomes symbolic due to the hollow capability that remains. Without meaningful force capability, U.S. leadership of NATO is in jeopardy as is our influence in Europe. Therefore, it is in our National Security interest to maintain our forward deployed force level at approximately 100,000 in Europe.

Maintaining a forward deployed force in Europe under the current drawdown plan does not detract from the readiness of our forces in the CONUS. The planned end state CONUS force and the USEUCOM force will be capable of responding to foreseeable crises.

ROLE OF NATO

Question. With the post-Cold War scenario and the formulation of the West European Union (WEU), the future role of NATO has been questioned. NATO countries over the past year have made strong commitments to downsizing their defense resources over the next four years. What is the impact of the downsizing by other NATO countries especially in respect to burdensharing?

Answer. All NATO nations, with the exception of Turkey, are in the process of reducing their military forces and defense spending. This is occurring for two reasons: difficulty in quantifying the present threats to European security and increasingly stressful economic conditions at home. With the exception of Belgium and the Netherlands, the European nations are reducing their military forces in Europe at a rate that is lower than the U.S., thereby increasing their relative share of mutual defense in Europe. If we look at burdensharing in a broader context to include sharing the responsibility for such things as peacekeeping and humanitarian aid missions, we will find that the Europeans will absorb an equitable portion of the burden in the future.

Question. Today, the U.S. has a naval commitment to protect NATO's northern and southern flanks. What is the future U.S. maritime commitment to the NATO alliance?

Answer. The U.S. must continue to maintain adequate naval forces deployed in the European theater as an integral part of our forward presence force. We must continue to maintain our naval commitment in the future to the NATO alliance providing the necessary ships, aircraft, and Marine assets as part of NATO's Immediate and Rapid Reaction forces, Main Defense forces, and NATO's Augmentation forces.

[CLERK'S NOTE.—End of questions submitted for the record.]

THURSDAY, APRIL 22, 1993.

COMMANDER IN CHIEF, UNITED STATES SPECIAL OPERATIONS COMMAND

WITNESS

GENERAL CARL W. STINER, COMMANDER IN CHIEF, U.S. SPECIAL OPERATIONS COMMAND

INTRODUCTION

Mr. MURTHA. The Committee will come to order. We want to welcome one of our premiere heroes of this country to the Committee, General Carl W. Stiner, Commander in Chief, Special Operations Command, and tell you how much we appreciate the work that you have done in the past.

Talking to you before the hearing, I was surprised at some of your activities that had not received much publicity. I am gratified to hear of your activities. We appreciate all the work you have done over the years for this country, and I know your troops have been invaluable. This Committee has been a strong supporter of your forces because they have done such an outstanding job. We have visited them many times in various capacities and look forward to seeing some of the work that you are doing in the United States. We appreciate the work that you have done personally and the dedication that you have aside from the fact you are from Tampa and the command is in Tampa. We can't help the strenuous environment under which you have to work.

We appreciate your coming before the Committee and your dedication to this country.

Mr. Young.

Mr. YOUNG. Thank you, Mr. Chairman.

General, welcome back. Last time you were here you gave us great testimony. One of the projects that I was concerned about and you were very helpful with was the airfield at MacDill Air Force Base. That is working out well and I continue to be your advocate and supporter, and we are glad to have you.

Mr. MURTHA. That is true, you have a good supporter in Congressman Young. He is your best supporter and he makes sure that you and your command are taken care of.

With that, we will put your full statement in the record. If you will summarize some of your activities.

[The statement of General Stiner follows:]

UNITED STATES SPECIAL OPERATIONS COMMAND

WITNESS STATEMENT

HOUSE APPROPRIATIONS COMMITTEE DEFENSE SUBCOMMITTEE

GENERAL CARL W. STINER
COMMANDER IN CHIEF

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE APPROPRIATIONS COMMITTEE,
DEFENSE SUBCOMMITTEE

INTRODUCTION

Mr. Chairman and distinguished members of the committee, I appreciate this opportunity to appear before you to discuss the strategic potential of our nation's special operations forces--a capability of increasing importance in our rapidly changing world.

The end of the Cold War has resulted in a vastly different security environment than this country has faced before. The post-Cold War international environment confronts the United States with security challenges that are unprecedented in ambiguity, diversity, risk -- and opportunity. No single power confronts the United States as a clear and present military danger. However, the end of the Cold War has not eliminated threats to U.S. interests, abrogated U.S. responsibilities to friends and allies, nor eliminated the requirement for capable, versatile, trained and ready U.S. military forces. As we shift our focus from global war to regional, ethnic, and religious conflicts, special operations forces (SOF), with their regional orientation, are ideally suited to the challenge.

Versatility is an essential characteristic of all U.S. forces today. Each Service offers unique capabilities to the National Command Authorities (NCA) and the unified commanders that, when focused and properly integrated, support U.S. security interests. In an era of declining defense resources, the U.S. must make the most efficient use of its limited resources. Highly trained and technologically advanced SOF offer versatility that is uniquely applicable in the emerging international environment as instruments of U.S. national policy.

The special operations forces of the United States (which, by a recent decision by the Secretary of Defense now include Army civil affairs and psychological operations forces) are essential to a balanced national defense capability in this complex international environment. SOF are trained to conduct operations against strategic, operational, or tactical targets in pursuit of national military, political, or economic objectives. They operate across the entire operational continuum, from forward presence, to crisis response, to conventional warfare. They may support conventional operations, where they can increase the effectiveness of conventional units, or they may be employed independently when the use of conventional forces is neither appropriate or feasible.

THE SOF ROLE IN NATIONAL STRATEGY. Within the overall United States National Military Strategy, special operations forces have two primary roles:

1. **Deter or Counter Violence.** USSOCOM's first role is to deter violence and, when and as directed by the NCA, take actions to counter threats to U.S. interests. While SOF have a key role in any conflict, SOF make unique contributions by providing the NCA very selective, flexible, and precise force packages at the low end of the operational continuum which can quickly respond to crises that threaten our interests. This capability falls between diplomatic initiatives and the commitment of conventional forces. Because SOF can conduct small, complex, crisis response contingency operations with great precision, the NCA is never left with the choice of too much force or none at all. This capability can deter aggressors who think the U.S. cannot or would not employ massive force to redress some problems. By increasing the aggressor's uncertainty and increasing his risk, SOF contribute directly to deterrence. If deterrence fails, SOF provide the NCA an increased number of options from which to choose an appropriate response.

2. **Nation Assistance.** USSOCOM's second role is that of Nation Assistance: supporting the development of political, economic, social, and military infrastructure of nations around the world in order to neutralize instability and promote democracy. The number of democracies in the world is increasing dramatically, but many are beset by economic, social, and security problems brought on by changing world conditions. These problems can affect both the quality of life and the government's ability to govern, and can result in insurgency if the developing government cannot meet the population's rising expectations. Helping a country meet the fundamental needs of its populace is the crux of any nation assistance effort. SOF are particularly capable of providing assistance to nations in developing successful counters to insurgency by addressing directly many of the problems. The key benefit of SOF in this role is that SOF focus on long term indigenous solutions to problems, rather than short term amelioration of the symptoms.

USSOCOM PRIORITIES. The SOF roles listed above, in turn, drive USSOCOM's two priorities, both designed to maximize USSOCOM's contribution to U.S. national objectives.

1. **Maximize Readiness.** The first priority is to maximize combat readiness. SOF units must always be ready to accomplish their mission on short notice with minimal additional train-up and preparation. The focus of the units must be on the readiness of the unit, to include personnel and equipment. Maximizing readiness drives SOF training and procurement.

2. **Full Employment of SOF in Support of U.S. National Objectives.** The second priority is to support U.S. national objectives by employing SOF in forward presence operations to the maximum extent possible. The goal is to get SOF units into the field where they can make a contribution to the security of assisted nations and to the goals of the United States.

I will discuss today the changing world environment as it relates to SOF, what makes SOF uniquely applicable to this changing world environment, the contributions SOF can make to U.S. security interests, and finally, discuss the needs of SOF for the future.

THE CHANGING WORLD ENVIRONMENT. The end of the Cold War created a turmoil that is still rocking the former Soviet Union and Eastern Europe. These events resulted in great gains to world peace - dramatic progress in strategic arms control negotiations and improved relations between the U.S. and the states of the former Soviet Union, significantly reducing the threat of nuclear war and of a massive theater wide conventional war. But there remain problems which necessitate tempering hope with realism. Many states that were previously restrained by Soviet foreign policy are now free to adopt policies more adventurous and more dangerous to regional stability. The post Cold War world is more dynamic, complex, and ambiguous. A thoughtful reassessment of this environment reveals problems often ignored or held in check by Cold War rivalries, problems for which little had been done to alleviate them. They can no longer be ignored.

a. **The Collapse of Communist Hegemony in Eastern Europe.** This has led to the reemergence of rivalries among the states of Eastern Europe and the Balkans based on long repressed territorial claims, ethnic hatreds, and religious conflicts. With no power able or willing to suppress them, as the Soviets did, these conflicts have resulted in huge refugee flows in Europe. The potential exists for new drives toward regional hegemony, and new regional power alignments, driven by resurgent nationalism.

b. **Ethnic Warfare.** The boundaries of many former colonial states were not based on ethnic divisions and many ethnic enclaves are surrounded by or intermixed with other ethnic groups. Increasingly, ethnic groups are trying to set up independent states.

c. **The Proliferation of Weapons of Mass Destruction.** Intelligence estimates are that by the year 2000, 25 countries will have ballistic missiles, 24 chemical weapons, at least 11 some nuclear weapons capability, and 15 may have biological weapons. The potential exodus of scientists from the former Soviet Union may exacerbate this problem. This wide availability has the potential to further destabilize regions, and to raise the cost of regional conflict.

d. **The Rise of Religious Fundamentalism.** The practice of any religion is not in itself detrimental to world peace, but when nations adopt as national policy the forceful spread of a single religion, it is a serious destabilizing force.

e. **Disease, Poverty and the Population Explosion.** Many nations have populations which are starving or on the verge of severe malnutrition, and have high population growth rates which exacerbate the problem. Over 80% of the world's population lives in less developed countries and by the year 2025 that figure will rise to 90% of a doubled world population. Some estimates are that 25% of that population will be hungry every day. Add to this inadequate health care, high illiteracy rates, and growing concerns over water rights and other environmental problems, and these problems multiply. The AIDS problem is growing alarmingly -- Sub-Saharan Africa may have 30 million people HIV positive within ten years. This will outstrip many nations' ability to provide adequate health care, cripple emerging economies, and affect leadership in ways that will increase instability.

f. **Terrorism.** Ever present, increasingly sophisticated, terrorists have access to new and more powerful technology to support their programs, resulting in increasingly devastating and lethal attacks.

g. **Narcotrafficking and Narcoterrorism.** The money available to narcotraffickers, and their growing sophistication, have allowed them to expand their influence around the globe and led them into alliances with insurgent and terrorist movements in some areas.

h. **Emerging Democracies.** In the wake of the Cold War, many states with little tradition of democracy are finding it difficult to develop democratic institutions, often resulting in weak governments and militaries that do not understand their role in a democracy.

i. **The Conversion from Demand to Market Economies.** Developing economies, faced with adopting free market principles at the same time they are modernizing, are running into problems with rising debt, inflation, and unemployment, without the hoped for immediate benefits.

j. **The Revolution of Rising Expectations.** The information explosion has created in the third world greater awareness of the benefits enjoyed by the most successful nations in the world and the relative level of deprivation of the lesser developed nations. There is growing dissatisfaction with the gap between rich and poor.

All these factors have combined to make the world, in many ways, less stable and less predictable than during the Cold War. A world undergoing unprecedented political, economic and military change will challenge the international order as it has seldom been challenged before. Today there is a growing number of independent international players, each with its own interests. The problems related earlier will cause many governments to be susceptible to insurrection, subversion, and destabilization. Within the last few years we have seen several strong democracies in Africa and Latin America destabilized, and some states of the former Soviet Union that originally embraced democracy are now finding it hard to hold on to that institution.

There will always be those whose interests conflict with ours. Numerous conflicts will either directly or indirectly threaten enduring U.S. interests worldwide, interests which include access to strategic materials and lines of communications for ourselves, our allies, and our friends; maintaining U.S. influence, basing facilities, and allies; protecting U.S. lives and property; and encouraging economic development and democratic reform.

Social upheaval could lead to challenges that range from immediate to long term; overt aggression to latent political instability; the resurgence of powerful repressive governments and a variety of renegade regimes and unstable rulers; regional arms races fueled by nations with exploitable natural resources that provide them with large amounts of money; and protectionist trading blocs. Any one of these may threaten our interests.

Amid these problems, however, exist tremendous opportunities for increasing freedom and prosperity in the world, and for shaping the security environment in a manner favorable to U.S interests. Many people are now searching for ways to achieve democracy, a market economy, stability and freedom. It is in our interests to provide these emerging democracies with the tools to fend off destabilizing forces while they develop the conditions and institutions that will allow democracy to flourish. *The National Security Strategy of the United States* (January, 1993) states that a primary objective of the United States in today's international system is to champion "a stable and secure world where political and economic freedoms, human rights and democratic values flourish."

The ability of the United States, as the world's only remaining superpower, to provide leadership and to exert influence globally is unmatched. The United State's distinctive role is rooted not only in our power, but also in our values. As a nation with strong democratic values, and which seeks no territory or empire, the U.S. serves as a role model for many emerging states. We cannot solve all the world's problems, however, we remain the country to whom others turn in distress and are viewed as a force for stability in a troubled world by many others.

Special operations forces can make a significant contribution to developing nations, and at the same time help shape the security environment of the United States, helping to forestall problems that might eventually result in much larger expenditures of American lives and treasure. Our special operations forces constitute a low-cost but exceptionally effective force for dealing with these challenges.

SOF FUNDAMENTAL CHARACTERISTICS. The demands of special operations require forces with distinctive capabilities and characteristics. It is these characteristics which make SOF so applicable to today's security environment.

1. **High Quality, Mature Personnel.** The most important characteristic is the selection and retention of high quality personnel. Volunteers for SOF first demonstrate their maturity, intelligence, combat skills, and physical toughness in their parent Services, and then successfully complete an extensive and rigorous selection process. This process provides operators who are usually more experienced and mature than those in conventional units. SOF operators are trained to be versatile and innovative problem solvers under extreme physical and mental stress. Perhaps most importantly, they must be mature enough to understand the broader, sometimes sensitive, context in which they operate -- situations where the reputation of the United States may be at stake and where they must perform with discretion and discipline. The result of the process is an operator ready to work under the most demanding and stressful conditions, and better able to work with local military, political, and civic leaders.

2. **Intense Training as Joint Teams.** SOF training includes regular joint training with conventional forces, and constant joint training among SOF components. SOF can integrate joint teams at the lowest levels. An Army Special Forces A Detachment, working with Air Force Combat Controllers and Navy SEALS, can put together a team to train several kinds of host nation forces in multiple environments, or conduct complex crisis response operations, without having to spend long train up periods prior to deployment. Or, they can form survey teams to deploy immediately to disaster areas, incorporating civil affairs (CA), psychological operations (PSYOP), drop zone survey and aerial delivery, and medical survey in a small self-contained team that is already familiar with the local region and language. SOF air and maritime mobility assets can deliver these teams to any spot in the world on short notice and under adverse conditions. Because SOF units train continually for these kinds of missions, long training and rehearsal periods are not required for deployment. Continued SOF training success depends on SOF units having sufficient operations and maintenance (O&M) funds to maintain their high level of readiness.

3. **Regional Orientation.** Special Forces, PSYOP, CA, and some SEAL units, are regionally oriented on specific areas of the world. They develop expertise in the culture, language, traditions, geography, infrastructure,

politics, and environmental conditions of a region. As a result, these teams can deploy rapidly and be immediately effective upon arrival. They can operate without interpreters, avoid offending local customs, adapt to living in the local economy, and operate under all local environmental conditions. This allows them to quickly understand and gain the confidence and trust of those they work with. Successful PSYOP and CA missions require intimate knowledge of the language, customs, and culture of the target audience and the population with whom they are working. This kind of regional expertise requires long-term, dedicated training, but makes SOF particularly effective in dealing with host nation forces, governments, and populations.

4. **Technological Superiority.** When combined with proper planning and execution, technological superiority is a vital SOF multiplier which has been decisive in offsetting enemy superiority in numbers, firepower, or mobility, and in providing the capability for small teams to work in harsh environments cut off from normal support.

The Result -- Small, Highly Trained, Self-Contained Teams. Combine the above characteristics and you have the key to SOF versatility, the ability to deploy in small, highly trained, self-contained teams, with the following capabilities:

a. Gain access to denied areas by air, land, and sea.

b. Provide limited security for themselves and others.

c. Communicate worldwide with organic communications.

d. Provide medical support to handle all but extreme emergencies.

e. Live in austere, harsh environments without extensive support.

f. Survey and assess local situations, determine what additional support is needed, and communicate this assessment to a distant post.

g. Assess and control air delivered relief and assistance.

h. Work closely with local militaries and populations, with sensitivity for the local customs and the political, social, and cultural environment.

i. Organize groups of people into coherent, working teams.

j. Provide a relatively low cost, low profile, and less intrusive presence than conventional forces.

k. Deploy tailored packages rapidly to support specific requirements.

l. Adapt to a wide range of operations across the operational continuum.

These capabilities make it possible to deploy SOF teams without large overhead, far from support infrastructures, in areas cut off from communications and medical support, and in potentially dangerous areas. SOF teams are particularly suited to unconventional warfare, foreign internal defense, and humanitarian/disaster relief, all of which may be conducted under adverse environmental conditions, in less developed countries, in environments of incipient insurgency or lawlessness, and which may require extended stays in these areas and close contact with the local populace. Critical to the success of these missions is language proficiency, an intimate knowledge of the area of operations, and a thorough knowledge of the local culture. SOF can make initial contacts and report back on the risks, opportunities, and challenges follow-on forces might face. SOF have the ability to train host nation military and paramilitary units in the areas of law enforcement, counterinsurgency, and counternarcotics operations. They do this training in the native language and with due respect for local customs.

The joint nature of SOF makes it particularly effective in missions such as direct action, special reconnaissance, and counterterrorism, all of which share several features. Targets for all three may be in hostile or denied territory, are often fleeting, and frequently require a quick response. All three missions usually require meticulous planning, special techniques and equipment, and a joint effort, with ground forces, infiltration and exfiltration platforms, and firepower often coming from different components. Ground, air, and maritime elements of these missions need to be highly trained and specially equipped to avoid detection during both insertion and extraction, and during the mission itself.

Terrorism has long been associated with the low end of the operational continuum and has been a traditional weapon of the insurgent. Terrorism, in particular, requires a highly disciplined and very precise response. A unit must be carefully trained for this specific mission, and have an extensive array of specialized techniques and equipment. The rules that govern the effective use of force in a counterterrorist role are much different, more complex, and far more restrictive than they are in conventional warfare. It is difficult for conventional forces to train for this mission and maintain proficiency in conventional operations, which normally rely on the application of overwhelming firepower. Thus, highly trained and specialized SOF are ideally suited for this mission.

While special operations forces include a number of specialized units and skills, they are all organized, equipped, and trained to operate in mutual support with conventional forces, who often provide additional transportation and firepower for SOF missions.

SOF'S CONTRIBUTION TO FORWARD PRESENCE. In addition to critical combat roles, SOF are instruments of national policy in peacetime by supporting nation assistance programs at levels politically acceptable to host nations. They can be employed in situations where political constraints restrict the use of high visibility conventional forces. The use of SOF in focused nation assistance programs, coordinated with and in support of country teams and theater CINCs, can advance U.S. interests while assisting developing countries. The U.S. cannot afford to wait until threats require massive military intervention. By attacking problems before they reach the crisis stage, we minimize the expenditure of American lives and treasure. It is in our national interests to promote democracy, free markets, and free trade. Forward presence helps increase our influence abroad, provides early detection of impending crises, assists is heading off those crises before they become shooting wars, and leads to more effective intervention if that is unavoidable. Specific SOF contributions to this role include:

a. **Low Profile, Politically Acceptable Deployments.** U.S. assistance often works best when it is inconspicuous. The relatively low profile of SOF is especially useful when U.S. presence is a sensitive issue with the host country. Ironically, SOF, some of our best trained combat troops, are often known more for their training ability than their combat skills. Many governments will accept SOF units because of this, where they would not accept a conventional unit because of sensitive sovereignty issues. The low profile of SOF units, able to accomplish much with few people and minimal support, makes their employment in many countries possible, where the publicity and size of other kinds of units would make it prohibitive.

b. **Military to Military Contacts.** Successful joint and combined exercises with the forces of developing nations significantly improve the capabilities of these nations to create and protect a stable environment for emerging democracies. For many of these militaries, SOF are an example of the role of the military in a democracy, reinforcing the idea that the military serves the democratic government as an instrument of policy, not the maker of policy. SOF explain in the local language the importance of a professional military, and subordination to civilian government direction.

c. **Training Host Nation Forces.** In addition to traditional threats (insurgency, terrorism, and narcoterrorism) poaching and other forms of environmentally damaging activities, and huge refugees flows are on the rise in many countries. The combination of counterinsurgency, civil affairs, PSYOP, and medical expertise in SOF units, makes them ideal for training host nation forces to deal with these problems and assist the population.

d. **Overt Peacetime PSYOP Program.** In many developing countries getting the government's message to the population is a major challenge. PSYOP units can assist in communicating the government's messages about the availability of government services, disease prevention, support for counterdrug activities, support for democratic institutions, the promotion of human rights, countering disinformation from narcotraffickers and insurgents, and a myriad of others. For example, an important step in reducing the spread of AIDS is awareness of how it is spread and how to protect against it. Many nations do not have the money, infrastructure or capability to get this message out. PSYOP units can be of great assistance in these cases. All PSYOP actions are overt, tell the truth, are coordinated and approved by the country team, and support the ambassador's program and national and regional security objectives. PSYOP units are not in competition with the United States Information Service (USIS) or host nation agencies, rather they coordinate closely with them on all actions.

e. **Nation Assistance.** The diverse skills in SOF civil affairs units are uniquely suited to helping nations develop the infrastructure they need to develop into prosperous and stable nations and set up programs to provide a wide range of services to their population. Army Special Forces often use their expertise in engineering and medical care to assist local forces in providing help to the population, at the same time that they are engaged in training the host nation military. This also provides a powerful example for the host nation military, and helps occupy them with efforts beneficial to the country while keeping them out of politics. Civil affairs personnel work in conjunction with other US and host-nation government agencies to coordinate and enhance their efforts. They can coordinate projects such as the construction of roads, bridges, schools and athletic fields, and can train host nation forces to conduct these activities themselves. They train host nation military and civilians in public administration and infrastructure management, such as managing health and transportation systems. Civic action programs worked in conjunction with US agencies such as USAID can increase stability and promote a stronger infrastructure in the host nation, helping a threatened government act more effectively and furthering governmental legitimacy in the eyes of the population.

f. **Humanitarian Assistance and Relief.** SOF are well-suited to assist U.S. Government sponsored humanitarian assistance activities in remote areas, especially in a low intensity conflict environment. SOF units are often the first on the ground during these efforts, and are able to significantly alleviate suffering. With their regional orientation and ability to organize people, they are ideally suited to set up initial contacts and relief sites, and are adept at assessing, controlling and handling air delivered relief. All Special Forces non-medical team members are cross-trained in basic field medical skills, to include sanitation and water treatment, often the most important issues facing populations during devastating disasters. Veterinary skills are utilized to inspect food sources, provide first aid for farm animals, and prevent disease outbreaks amongst the livestock. Teams also have some practical engineering skills, such as limited ability to rebuild roads, bridges and other fixed structures. SOF PSYOP units can communicate to a stricken people how to get assistance. Civil affairs units can assist in managing refugee camps and setting up local infrastructure to help people through the disaster and assist them in recovering from it.

g. **Medical/Dental/Veterinarian Assistance.** The basic SOF medical component is the highly trained enlisted medic, trained in advanced trauma management, internal medicine, infectious and tropical diseases, obstetrics, gynecology, pediatrics, orthopedic injury diagnosis and "field" management, minor surgery, preventive medicine and sanitation, veterinary medicine, and basic dental procedures. These capabilities are often augmented by medical, dental, veterinary, and medical planning specialists. The impact of a small number of medical specialists in remote areas can be dramatic, and SOF medical teams are often the only ones to get into remote areas. SOF medical asset regional orientation includes additional training in regional diseases and health problems, as well as cultural idiosyncracies that might affect medical care. SOF have been particularly successful in the sensitive problem of overcoming local cultural mores detrimental to improving health care, without provoking religious or cultural resentment. SOF medical assets try to focus on preventive medicine, such as mass immunization, maternal care, and nutrition programs, safe drinking water and appropriate sewage disposal. They train local health care workers to identify regional epidemic diseases and teach them preventive medical skills for early treatment to reduce the impact of these diseases.

h. **Coalition Support Teams.** When a United Nations (UN) or coalition force conducts peacekeeping or peacemaking operations, SOF teams can perform liaison, provide communications support, and support other activities as needed. The very nature of UN/coalition activities creates significant interoperability problems for the overall commander, especially in communications. SOF coalition support teams are chosen so they speak the language of the coalition nation they are deployed with, and carry with them a variety of portable, secure communications systems. They can create a communications connectivity among all of the forces of the UN/coalition force, act as liaison teams between the different layers of the command structure, and interface with non-governmental organizations and local populations. This capability was demonstrated in Somalia during Operation RESTORE HOPE when SOF coalition support teams were deployed with each coalition member of the peacekeeping force.

i. **The Key - Long-Term Fixes Rather Than Short-Term Band Aids.** SOF programs in forward presence do not try to solve local problems using U.S. resources and forces, rather they are designed to provide the host nation the capabilities to solve its own problems with its own resources. These programs focus on providing the host nation with the skills, resources, attitudes, and approaches necessary to implement long term solutions to problems, instead of short term amelioration of symptoms. The key to effective training for host nation military, para-military, administrative, and medical organizations is that SOF teach a cadre of local instructors to give them the experience necessary to maintain effective training programs even after SOF are gone. The programs and training provided can then be spread throughout the region with enormous positive impact and are not dependent on continuous U.S. presence.

THE VALUE TO THE NATION OF SOF FORWARD PRESENCE. While special operations forces carrying out forward presence missions are contributing to the welfare, stability and security of the host nation, they benefit the United States shaping a security environment favorable to the long term U.S. goals. These benefits take many forms.

a. **Increased Access and Early Warning.** SOF typically deploy with host nation forces in outlying areas not often visited by other U.S. organizations. They provide the U.S. with information about the geography, social infrastructure, leaders, militaries, and conditions of society of many nations where there is little other U.S. presence. This information and access can be of inestimable value if the U.S. has to support host nation forces in humanitarian assistance, disaster relief, or hostage rescue operations. SOF knowledge of the area can result in early warning of impending problems affecting a nation's stability, and provides decision makers with early, detailed and often unique assessments of developing problems. If the U.S. does have to commit forces to protect U.S. vital interests, this information can be among the most detailed and up to date available.

b. **Promote Stability and Reduce Likelihood of Larger Deployments - Preventive Measures.** Effective SOF deployments help developing nations alleviate the conditions of incipient insurgency and decrease the disastrous effects of drug trafficking. By heading off problems at lower levels, preventing them from becoming full blown insurgencies, and by helping keep democratic governments in power, SOF can reduce the likelihood the United States will have to commit larger forces to deal with more serious problems later on. Reduced instability leads to increased wealth and economic activity for the people of the country, and also benefits U.S. businesses with increased market opportunities.

c. **Goodwill.** The benefits SOF bring to a developing nations can build a reservoir of goodwill towards the United States. This goodwill can result in support for U.S. positions in the United Nations, support for U.S. goals and interests in various parts of the world, commitment of forces to U.S. led coalitions, and favorable treatment of U.S. economic concerns. It can also result in increased access to sea, air and land lines of communications for peaceful commerce, to support humanitarian relief operations, and to facilitate logistics support of deployed U.S. forces operating in remote parts of the world. Goodwill can be translated into increased influence which can be used to persuade host nation governments to take actions or adopt policies that are favorable to the U.S.

d. **Support for Democratic Forms of Government.** The example SOF provides on the role of the military in a democratic nation, and the increased security they help provide through training of host nation forces, can be an important factor in creating an environment supportive of democratic governments. Democratic governments are much more likely to respect human rights and to support U.S. foreign policies, and are less likely to resort to armed conflict to solve their problems. We have made the support and expansion of democratic forms of government one of our foremost priorities, and SOF are in the forefront of this effort.

e. **Counter Drugs.** SOF missions in countries beset by narcotrafficking and narcoterrorism allow those countries to deal with these problems more effectively. This in turn will decrease the flow of illegal drugs to the United States and help in our own counterdrug campaign.

f. **Military to Military Contact.** The emerging security environment will require the United States to form ad hoc coalitions more frequently than in the past. Without formal alliances we will have to rely on contacts developed through other means. SOF contacts with the forces they train and exercise with facilitate combined operations, such as OPERATION DESERT STORM. By encouraging the use of U.S. equipment and doctrine these contacts can help further interoperability and facilitate future crisis response capabilities. Another result is increased influence within host nation forces, which can be critical if their support is needed for contingency operations, humanitarian assistance operations, or crisis response.

g. **Human Rights.** All SOF units are trained to respect human rights, but more importantly they are specifically charged to observe the human rights behavior of the units they train and to instruct these units on proper respect for human rights. By the example they set, and by the training they provide, SOF units can have a significant impact on the observation of human rights by militaries that heretofore did not consider the support of human rights to be a part of their job. Increased respect for human rights by these militaries makes our relations with these countries much easier.

h. **Training Benefits.** All SOF deployments overseas result in valuable training. Many SOF missions focus on work with local populations. In unconventional warfare and special reconnaissance knowledge of local language and culture is critical for survival in a hostile environment. Humanitarian assistance is most effective when conducted by personnel well versed in the local region. SOF deployments overseas allow SOF to hone their language skills, to become immersed in the local customs and culture, and to gain detailed knowledge of the people, conditions, terrain, weather, medical problems, and infrastructure in countries in which they are employed and that they might have to work in during forward presence, crisis response, or wartime operations. Additionally, FID missions focus on training host nation militaries in the same skills that SOF units train host nation populations on in unconventional warfare.

i. **Direct Support to the Ambassador.** In a deteriorating security environment, SOF can provide direct support to the country team in the form of early warning and enhanced evacuation planning efforts, prior to the situation becoming critical. SOF can support non-combatant evacuation operations (NEO) in both permissive and non-permissive environments. They can assist the ambassador with NEO organization, liaison with local civilian and military officials and other U.S. forces, enhanced communications, emergency medical services, and with counterterrorist capabilities. CA units can assist the ambassador and the host-nation conduct disaster preparedness planning and training, disaster relief operations, and can act as liaison between government, military, and private volunteer organizations.

j. **Demonstration of Resolve.** SOF deployments into areas experiencing insurgencies, instability or terrorist activity signal the resolve and commitment of the United States to both allies and adversaries, enhance regional stability, and promote U.S. influence and access. Such deployments can reinforce alliance cohesion, and act as a moderating influence in regional crises.

THE EMPLOYMENT OF SOF IN A TROUBLED WORLD. Since the end of the Cold War, SOF employment has increased steadily. The employment of SOF in all kinds of missions rose 35% in Fiscal Year (FY) 1992 over FY 1991. SOF employment in counter drug operations rose by over 104% in the same period. Each of these deployments represents one mission. The mission could be as small as one or two specialists assisting an ambassador with language expertise, to a huge deployment of hundreds or thousands to assist the victims of a natural disaster. Over 90% of these deployments directly assisted the host nation improve the security, stability and environment for the citizens of that country. Many of these deployments provided a significant and needed presence in areas where no U.S. military forces are stationed or regularly deployed.

Additional figures illustrate the magnitude of the SOF role in the past year. In FY 92, SOF were employed in 102 countries in every geographical region of the world. During that period the average weekly commitment of SOF away from their home garrison, supporting national objectives both in the United States (primarily counternarcotics operations, but also in disaster relief such as the aftermath of Hurricane Andrew) and overseas was 2600 operators, deployed on 115 missions, in over 40 countries and in 15 states. During the last Christmas holiday season, when most Americans were home with their families, SOF had over a thousand personnel deployed on over 80 missions in 35 countries and 18 states. SOF will be employed 365 days a year this year as in the past. They will be gone on Easter, on Independence Day, and on Christmas, doing things in furthering U.S. interests that conventional forces are not designed to do, dealing with problems that threaten human dignity and cause friendly governments to fail, and which, if left unattended, could involve the United States in major contingency operations.

All of these deployments are initiated or approved by the country team in the nation involved. SOF teams do not go into any area without the knowledge and approval of the Ambassador, and of the CINC in whose area they operate.

Why the Increasing Demand for SOF? The growth in SOF deployments reflects the less stable post Cold War world and a growing awareness by country teams and regional CINCs that SOF provide unique and extremely valuable capabilities in dealing with many of the problems that exist in the world. The very nature of our nation's special operations forces provides U.S. policy makers with the level of versatility required day-in and day-out during this period of international transition. SOF have been a critical ingredient in theater CINC efforts to implement country-specific nation assistance and information programs that apply military resources to prevent or reduce conditions of instability. SOF deploy in tailored teams to meet specific requirements requested by theater CINC's and country teams. Successful advisory assistance depends more on effective cross-cultural communications and personal relationships, a SOF specialty, than on formal agreements.

FORWARD PRESENCE OPERATIONS - EXAMPLES: The utility of SOF in forward presence has been demonstrated repeatedly over the past few years. The special skills, regional orientation and rapid response capabilities have been critical in several important missions. A few examples will highlight the contributions of SOF to U.S. national security objectives in peacetime.

A special operations PSYOP soldier provided linguistic and information support for the U.S. Ambassador to the People's Republic of Mongolia during a recent humanitarian/medical assistance operation. Relying on her Russian language proficiency, this SOF soldier was able to arrange and organize the airlift of needed supplies to the Mongolian government, coordinate visits of dignitaries, teach English to Mongolian officers, and in general create a very favorable impression of the U.S. military among the Mongolian military.

In Cameroon, FY 91, a small, regionally oriented, Civil Affairs medical team from the 353d Civil Affairs Command conducted a medical training mission with the Cameroonian military. This team assisted in the inoculation of over 58,000 people against the deadly meningitis disease and treated an additional 1,700 people for a wide range of ailments. For Cameroonians this was the first time in their lives they had seen a doctor. The skills given to the Cameroonian Army medical personnel allowed them to continue this program and administer an additional 170,000 doses of vaccine after the SOF team left. The government of Cameroon recognized the work of this small team with a local parade. All this was done over a 3 week period, and at a cost of only $86,000. According to our ambassador, nothing has been of more utility in furthering our relationship with the people and government of Cameroon. In FY 92 the same team returned to provide basic medical care and treated over 5000 patients in a 10-day period, again in conjunction with local health care workers.

In all of the Eastern European countries where the United States has an embassy, SOF survey and assessment teams are working with the ambassador, participating in language immersion training and conducting regional assessments. In many countries of the Former Soviet Union, SOF personnel have been involved in the delivery of urgently needed humanitarian supplies, providing language assistance to the Air Force crews flying in restricted C.I.S. airspace and then working with local militaries, to include Russian Spetsnaz, to unload and distribute the supplies.

India has long been closed to U.S. military contact. With the end of the Cold War, the Indian government has relaxed its position and has allowed Special Forces training teams to work with the Indian Army, training them in many skills, to include parachuting. This represents the first military-to-military contact the U.S. has had with the Indians in many years. This is especially critical as India is a very important regional power and is playing and increasingly important role in a highly volatile region.

In the immediate aftermath of the Gulf War, 500,000 Kurdish refugees desperately needed help. When the U.S. Government decided to act, SOF units spearheaded Operation PROVIDE COMFORT. Soldiers from the 10th Special Forces Group were dispatched to Turkey and Northern Iraq to assess the situation, secure the area, and coordinate immediate emergency measures to stabilize the rapidly deteriorating situation that existed in the mountain camps. These SOF soldiers provided medical aid for thousands of refugees, provided sources of uncontaminated drinking water, arranged for the aerial delivery of needed supplies, helped the Kurds establish camps in the mountains of Northern Iraq. In one camp, the death rate was hovering at over 250 a day from malnutrition, disease, exposure, and from wounds inflicted by the Iraqis. Special Forces teams were able to reduce the death rate to 4 or 5 a day within two weeks. In one village, a civilian emergency medical aid team had written off 250 Kurdish children with cholera as beyond hope. The Special Forces team assigned to this village worked day and night to care for these children and managed to save all but five. CA and PSYOP forces were instrumental in assisting the Kurds. They began the planning that led to the Kurds returning to their homes, via the temporary camps that were constructed to serve as way stations. Throughout the operation SOF proved to be extremely effective at working with international relief organizations who, in the past, have purposely avoided close working relationships with military organizations.

When a killer tropical storm hit Bangladesh shortly after the end of the Gulf War, soldiers from the 1st Special Force Group were dispatched to assist the local authorities in providing humanitarian aid to the victims in Operations SEA ANGEL. Using their skills to assess the situation, and their communications to convey the information back to a base camp, they set up emergency relief flights to bring in desperately needed supplies. Once the immediate crisis was over, Army and Air Force SOF continued to train the Bangladesh Armed Forces in disaster relief operations. The training, according to the U.S. ambassador, "has helped advance the interests of world peace...cement(ed) a solid relationship between the United States and the Peoples Republic of Bangladesh...enhanced Bangladeshi self-sufficiency for disaster relief operations...."

In December of 1991, a large influx of Haitian refugees headed for the United States in the wake of the coup that ousted President Aristide. These refugees wound up in Guantanamo Bay Naval Base, Cuba, where civil affairs and PSYOP units were dispatched to assist in setting up and running the refugee camp in Operation GTMO. Over 15,000 refugees were cared for. SOF units were critical to this mission as their language capabilities, knowledge of displaced persons operations, and the ability to create and disseminate messages were required to prevent a potentially very volatile situation from erupting into uncontrolled violence. Using both printed and broadcast messages, and their skills at dealing with people, SOF units were able to organize the refugees into small democratic units that were made responsible for their own welfare.

The aftermath of Hurricane Andrew also saw SOF employed to assist in disaster relief. PSYOP units were able to get information to people when no other means of communication were available.

In the Caribbean island nation of Dominica, Navy SOF provided medical and dental care to over 300 patients, repaired local health care facilities, provided health care classes to Dominica health care providers and gave basic health care instruction to the local populace. During a similar mission in Nepal, a small 13 person Army SOF team trained Nepalese nurses and medics in basic field medical and trauma tasks. Seminars were conducted on advanced trauma topics to Nepalese doctors and nurse specialists. In both of these cases, host governments and U.S. ambassadors were enthusiastic about the expanded role of the U.S. military working with host country military and government officials as a means for providing essential services to the local populace and educating the military on the contributions it can make to society.

SOF AND THE COUNTERDRUG MISSION. While civilian agencies of the US Government normally lead US counterdrug activities, both at home and abroad, SOF contribute substantially to this mission. SOF's mission in counterdrug operations is to provide counterdrug training, assistance, and operational support to host nation forces, supported CINCs, and other U.S. government agencies. Additionally, SOF plan and conduct counterdrug operations in support of U.S. national security objectives when so directed by the National Command Authority.

The primary SOF role overseas is to support US and host nation counterdrug efforts by advising, training, and assisting host nation military, paramilitary and, when specifically authorized, police operations, targeted at the sources of narcotics, narcotics processing and transshipment points, and narcotics movements.

SOF involvement in CD activities in the U.S. is in support of the Commander-in-Chief, Forces Command (CINCFOR), primarily along the Southwest Border through his component, Joint Task Force SIX. JTF-6 coordinates and directs military support to civilian law enforcement agencies through OPERATION ALLIANCE (a Federal coordinating agency), and exercises tactical control of SOF units on missions in the area. JTF-6's area of operation includes the states of Texas, New Mexico, Arizona and California. Some of the Law Enforcement Agencies SOF have worked with include the Drug Enforcement Administration, United States Customs Service, National Park Service, United States Border Patrol, Bureau of Land Management, and numerous state and local drug law enforcement agencies (DLEA). SEALs and Army SOF have been fortunate in alerting DLEAs to observable activities, resulting in DLEA arrests, money and equipment confiscations, and drug interdictions. Our units performed legislated training, practicing their wartime skills, while supporting the DLEAs.

In addition to the support provided JTF-6, USSOCOM, through FORSCOM, is starting to assist Project North Star, a coalition of both U.S. and Canadian DLEAs. Project North Star ultimately will unite 16 states and 10 provinces sharing common borders in an effort to reduce the flow of drugs across the thousands of miles of unmarked, open border.

MODERNIZATION - INCREASING OUR UTILITY TO THE NATION. Modernization is essential if SOF are to maintain their edge over potential opponents. Modernization has three important components - equipment, force structure, and doctrine.

EQUIPMENT PROGRAMS. USSOCOM has two equipment modernization priorities. The first is to carry through to completion the modernization programs that are already in progress, and the second is to exploit new technologies to further enhance SOF capabilities.

Current programs are designed to enhance SOF capabilities in two critical areas - (1) mobility, both aerial and maritime, and (2) command, control, communications and intelligence. The most important program for the 1990s is improved SOF mobility systems. Mobility is key as it represents our ability to infiltrate and exfiltrate forces in any area and threat environment of the world.

Aerial Mobility. We are currently fielding the most advanced penetrator helicopters in the world, the MH-60K and the MH-47E, for Army special operations aviation. They will provide an increased medium range capability for low level flight in adverse weather and precision navigation through unfamiliar, mountainous terrain. Both of these helicopters are equipped with extended range fuel systems, aerial refueling capability, forward looking infrared (FLIR) systems, and upgraded engines. These helicopters will give us a superb capability for short and medium range penetration. The 24 MC-130H Combat Talon II aircraft programmed for procurement will dramatically improve our long range capability to employ SOF. This fixed wing aircraft is capable of low level, night, adverse weather penetration of hostile air space to infiltrate or resupply SOF units.

Currently there is neither a long range SOF air exfiltration system nor a near-term program to acquire one. This lack of capability is a severe shortfall in SOF mobility requirements and hinders our ability to respond to worldwide threats to national security. Helicopter technology has reached its limits for infiltrating SOF teams over extended distances into denied areas and exfiltrating them in one night. We must have a greater capability, which means another platform.

Maritime Mobility. Improved Navy SEAL tactical insertion craft and advanced SEAL delivery systems will give us an effective maritime infiltration and exfiltration capability. We will enhance Seal Delivery Vehicle

(SDV) team readiness by modernizing the SDV and swimmer life support systems to increase capacity for short range missions. The fielding of the Advanced Swimmer Delivery System (ASDS) in the later part of the decade will significantly improve our current capabilities. The ASDS will provide increased range and speed, and will protect SEALs from extreme cold water conditions, resulting in improved performance at the target. It will also enhance the survivability of the delivery system's host ship. The ASDS, when fielded, will give SOF covert capabilities never before available.

The USS CYCLONE Class Patrol, Coastal (PC) and the air transportable MK V patrol boat will modernize Navy special operations direct action, special reconnaissance and coastal patrol and interdiction capabilities to maintain risk within acceptable limits. The mission of the PC is coastal patrol and interdiction, with a secondary mission of SEAL support. The first PC has been delivered and the second one is due in the near future. The Mk V patrol boat mission is medium range insertion and extraction of SOF personnel in a low to medium threat environment. The system combines a high performance, versatile, reliable, and rugged combatant craft with a transporter. The entire system will be air transportable, allowing rapid response to developing situations around the world.

C3I. The development of the Joint Advanced Special Operations Radio System (JASORS) is USSOCOM's most important C3I modernization program. When fielded this radio will replace several older, heavier, and less reliable radios with a single system that will greatly increase our ability to communicate within SOF and also with conventional forces. It offers a secure, low probability of interception and detection capability to improve the survivability of SOF operating in denied areas. JASORS will be interoperable with communications systems used by conventional forces as well as theater CINC C3I systems.

AC-130U. The AC-130U gunship will greatly enhance our capability to support SOF and conventional forces in contingency operations. The AC-130U will be the best gunship in the world in terms of navigation, target acquisition, adverse weather capabilities, and accuracy and lethality of fires. The gunship will have greater stand-off capability and will minimize collateral damage with pinpoint firing accuracy.

Technology Enhancement. The second key component of the modernization process is to focus high technology research and development on those areas with the greatest potential for technological breakthroughs to enhance further SOF capabilities to carry out highly specialized missions. To develop and field the right systems on time, SOF research and development programs must be carefully tailored, closely managed, aggressively pursued and adequately funded. A primary challenge is to discriminate among emerging technologies and select those that provide the greatest benefit for the resources expended. SOF research, development and acquisition is done in close cooperation with the Services and civilian laboratories to explore emerging technologies, preclude wasteful duplications, and take advantage of shared capabilities. The relatively small size of the SOF community enhances our ability to exploit technology, enabling shorter decision and implementation times.

FORCE STRUCTURE MODERNIZATION. SOF must have an effective force structure to accomplish missions assigned by theater unified commanders in the emerging security environment, emphasizing versatility and technology to overcome inherent disadvantages in size and firepower. Increasing demands for SOF may require small increases in SOF size, if we are going to continue to provide the support required of us by the administration and the regional CINCs. The most important manpower shortage currently faced by SOF is being addressed by the formation of a second active civil affairs battalion.

Maintaining an effective mix of active SOF, with a corresponding reserve structure to provide for sustainment and depth, is essential. Reserve component SOF play an important role in enhancing the versatility of the total special operations force. They train to the same uncompromising standards and are prepared to fight alongside active component forces. The capacity to reinforce and reconstitute with trained and ready reserve component forces contributes to overall SOF readiness. Force planning must continue to ensure that reserve component capabilities appropriately meet anticipated strategic requirements and modernization plans. Adjustments may be needed in the active/reserve mix to reflect the emerging security environment as opposed to that which served as a basis for force structure decisions during the Cold War. USSOCOM must have the active component capabilities to meet requirements for short/no-notice contingency and humanitarian assistance operations in more than one theater of operations at a time. The simultaneous employment of large contingents of SOF in Operations DESERT SHIELD/DESERT STORM/PROVIDE COMFORT/SEA ANGEL/GUANTANAMO demonstrates the need for this capability.

DOCTRINE MODERNIZATION: Prior to USSOCOM's formation, the only joint doctrine manual for SOF was JCS Pub 20, Vol I and II. Pub 20 did not contain detailed joint tactics, techniques and procedures for special operations. The Joint Chiefs of Staff assigned USSOCOM lead agent responsibility for five joint SOF publications. The publications and their status are:

(1) Joint Pub 3-05, Doctrine for Joint Special Operations (Approved and published).

(2) Joint Pub 3-05.3, Joint Special Operations Operational Procedures (Proposed Final Pub, due out in 1993).

(3) Joint Pub 3-05.5, Joint Special Operations Targeting and Mission Planning Procedures (Proposed Final Pub, due out in 1993).

(4) Joint Pub 3-53, Doctrine for Joint Psychological Operations (Proposed Final Pub, due out in 1993).

(5) Joint Pub 3-57, Doctrine for Joint Civil Affairs (Test Pub, due out in 1993).

Operations JUST CAUSE (contingency operations), PROMOTE LIBERTY (post conflict operations), DESERT SHIELD/DESERT STORM (conventional war) and PROVIDE COMFORT (humanitarian assistance) proved the effectiveness of special operations doctrine in a variety of operations. However, it must be frequently reviewed and updated, not only to take into account the changing world environment and force structure changes and modernization, but to provide a framework for future force structure and modernization programs.

SUMMARY

The end of the Cold War has unleashed unpredictable forces in the world, and problems that will not diminish in the near term. With many states no longer constrained by superpower rivalry, threats may increase dramatically. Today, the United States is in a position to positively influence the international security environment by fostering economic progress and political stability. SOF play an increasingly vital role as instruments of U.S. national policy in a security environment fraught with change, ambiguity, and risk. The global interests of the United States, and the growing complexity of the international environment, demand versatile SOF that are trained and ready for the unprecedented challenges ahead.

U.S. special operations forces, as integral members of the joint team, are a key and essential component of total military readiness. They offer the National Command Authorities, and the theater CINCs, a wide range of capabilities for dealing with future challenges. These capabilities range from specialized forward presence operations in support of U.S. national security policies, helping to create stability and democracy in selected countries around the world, to equally specialized conflict and post-conflict support. The high quality, unique skills, and maturity of SOF make them ideal for meeting these challenges. The United States must continue to field SOF capable of deterring and countering an unprecedented range of threats to U.S. interests. There is no better investment for our future, or that of countless millions around the world who, now, more than ever, look to the United States for leadership and hope.

SOF represent a great value to the nation. They are only 1.7% of Department of Defense Manpower, and require only 1.1% of the DoD budget. To continue this affordable capability in a time of need, we must maintain the right mix of forces at the highest state of readiness. We cannot compromise the two most important foundations of SOF readiness, the continuing ability to select and retain the best people and to exploit advanced technologies. To do so would dramatically escalate the cost of future conflicts, in terms of lives lost and resources expended.

America's special operations forces today represent a capability only dreamed of a decade ago. The quiet professionals who make up this community are some of our nation's finest and most capable people, yet they receive, and seek, little publicity. They do not hesitate to risk their lives for their country, when required. During OPERATIONS JUST CAUSE and

DESERT STORM, 31 gave their lives in combat, and 100 were wounded, proportionately more than any service. Dedicated to the service of the United States, special operations forces will continue to make significant contributions to our nation's security. They will continue to give our nation their very best, and are ready to lay their life on the line if that is what the nation asks of them.

Your recognition that special operations forces represent a tremendous capability at a relatively low cost and your continued support have helped improve our posture significantly. If SOF are going to continue to contribute significantly to U.S. national security in the future, four things are essential. First we need sufficient O&M funds to ensure training readiness. Second, we need funds to leverage technology so we can continue to stay ahead of potential adversaries and operate in harsh, austere environments, where most of the problems lie. Third, we need to continue to fund procurement of our vital mobility and C2 programs. Finally, we must create and maintain a force structure that meets the needs of the regional CINC's in their programs to conduct valuable forward presence and counterdrug operations. Cuts in any of these areas will result is a less capable force and will almost certainly mean less support for regional CINCs.

Mr. Chairman, once again I appreciate the opportunity to appear before this committee and present my views.

SUMMARY STATEMENT OF GENERAL STINER

General STINER. It is great to be back again.

Let me tell you all how much I thank you for the support you have given the United States Special Operations Command in the last go-around on the budget last year. Your support has been put to good use.

SOF is busier now than ever before, partly because of the world situation out there. The world is not a stable place and partly because of the recognition by the regional CINCs, such as the witness who was here yesterday, that the utility of SOF, as instruments of U.S. national policy in meeting the needs of their regional objectives. When employed to meet these needs of specific countries, countries which respect human rights and dignity, and have stood up a fledgling form of democracy but because of their problems—it wouldn't last very long unless they receive help—problems of incipient insurgency and disease and poverty, lawlessness and narcotic terrorism and a military that doesn't understand its role in democracy.

Our commitments are up 35 percent this year in supporting the regional CINCs over last year. Last year we had troops committed in 102 different countries in every geographic region of the world. Our daily commitment for the last year and a half is about 2600, plus or minus a few, every day committed on 151 different missions in at least 50 different countries in every geographic region of the world and usually 15 States. These 15 States are mainly along the southwestern border of the United States, where we are assisting drug enforcement agencies and law enforcement agencies in the war against drugs in the United States. That is the way it is every day with us.

SPECIAL OPERATIONS FORCE INVESTMENT

From our standpoint, SOF is a very cheap investment for the United States, but it is the best investment the United States could make when you look to the future. We are only 1.7 percent of the DOD manpower percentage and 1.5 percent of the DOD's budget. When you look at the return, there is no better investment in my judgment as far as shaping the security environment for the United States in the future.

FORCE STRUCTURE NEEDS

My highest priorities that I would ask your continued support on, and our 1994 budget reflects this. Number one is an adequate force structure to meet our needs for the future. That may require some minor adjustments in the future, some minor adds based upon experiences of the last three major contingency operations—Granada, Desert Shield, Desert Storm, and what is going on now. I am talking about a few more crew members coming on with our new systems and a few more civil affairs people, because we don't have enough active structure to meet the needs.

SPECIAL OPERATIONS FORCE BUDGET NEEDS

Next, I would ask your support for enough O&M funds to train and to meet the needs of the regional CINCs so we do not end up with a hollow force. That is my highest priority.

Last, I would also ask for enough funds so that we can leverage the technical base and do the R&D that is necessary in terms of developing technology to give the United States the capability that it needs to stay on the leading edge in year 2005, 2010, and beyond.

Those are my highest priorities. I would be glad to answer any questions that the Members of the committee may have.

FISCAL YEAR 1994 BUDGET REQUEST

Mr. MURTHA. Your budget has not gone up at all. It is $1.8 billion for both years; is that right?

General STINER. That is about it. There are increases in O&M of $106 million because of new systems and increase in OPTEMPO. MilCon is up $79 million over 1993, because of the moratorium for FY 1992. R&D is up $100 million associated with the new systems under development now. Procurement is down $197 million because we have bought out the aircraft in some of our major programs. So it about balances.

What I have had to do, to make the 1994 program executable, because of the increased OPTEMPO and shortfalls in some of the major programs is to borrow from the future in order to make this year executable; in other words, intentionally reduced R&D and procurement from certain programs in the outyears.

READINESS

Mr. MURTHA. That is interesting. I was just down at Fort Hood and talked to the corps commander, and two of the division commanders. They both felt that there has been a deterioration in readiness that they were beginning to feel. For instance, the 1st Cavalry Division has a $4 million shortfall in training money and he has requested that from corps headquarters. He may not get it because that money is not there.

As we know, nationwide the propensity to enlist is down, we are getting fewer high school graduates; where it used to be 100 percent or high 90s, it is down to the low 90s. I assume you are getting the same type of situation in Special Operations.

General STINER. There is no problem with the quality of personnel, and we are still getting the same amount of volunteers that we have always been able to attract.

Mr. MURTHA. The same quality?

General STINER. Yes, sir. We will not accept anything less.

Mr. MURTHA. At one time we had 20 percent category 4s. Could you handle category 4s in Special Operations?

General STINER. No. He would have to be an awfully unusual category 4.

PERSONNEL SELECTION

Mr. Young. General Stiner gave us a brief description of how he gets personnel into Special Operations. For the benefit of new Members, this might be a good time to get him to tell us.

General Stiner. I would be glad to. Except for the Rangers, and they are all volunteers and very high quality, and they go through a special selection process—except for psychological operations and civil affairs units, which are specialized for certain disciplines requiring master's degrees, et cetera, but for all Green Berets ——— we will change that, try to make it unclassified—for our Special Operations Units.

We don't take officers or NCOs unless they are proven to be performers in their respective services and they are volunteers. NCOs must be grades E–5 or above. They can have no Article 15s, no serious disciplinary actions. No drug usage, etc. They must possess a Secret security clearance as a minimum.

Then we recruit from all over the Army twice a year. Then they are brought TDY at our expense to Camp Dawson, West Virginia, for a three week period of assessment and selection. We will screen and there will be, for example, there may be 6,000 eligible across the Army. We go out and interview all of these. Out of the 6,000 there may be 400 or 500 that will actually end up at Camp Dawson for one reason or another, after they find out more about it.

Mr. Murtha. What is at Camp Dawson?

General Stiner. It is a selection assessment location we have in the remote part of West Virginia. It is like the Mountain Ranger Camp in Georgia where we can bring them there, austere environment. It is an old National Guard base, 400 or 500 may actually show up there.

There they are put into the assessment and selection program. It is conducted in an environment of sensory deprivation. We copied this after the 22nd SAS selection criteria, where a man is put in situation where he is never encouraged, and neither is he discouraged. He doesn't know what the standard is, and he has to do it on his own. There is nobody to wake him in the morning. If he is told to be at this road's intersection with a rucksack weighing 50 pounds by such and such a time, he has to be there. He is given a card with his mission on it, and he has to accomplish that mission. Not knowing what the standard: S.

A lot of the requirements are not that stressful physically, but some phases are very stressful from a physical standpoint. He may have to move 75 miles cross country through the mountains carrying a rucksack that weighs 75 pounds and he doesn't know when it is he has to be at the finish line. He has to navigate on his own to get there. You would be surprised what this does to a person under those conditions.

We are looking for a person with the inner strength and the qualities to be able to endure under any condition. Each person is evaluated continuously by experienced cadre and psychologists. At the end of the assessment phase they are brought before a commander's board, and they are asked questions to determine their motivation, their morality, how they think, and to just learn everything possible about each particular person.

At that point and after the commander's board, the selections are made. In the end only six out of the 400–500 may be taken. There have been some classes where none were taken.

One of the best operators that we have had was a forklift operator. This man had all the qualities. He could come in a room and totally blacked out ——— never having been there before, do an immediate assessment and kill the bad guys ———. That is just the kind of a person that he was.

After the decision is made on who stays, and who goes back to the units those that are sent back to units are sent with a letter signed by the ——— commander saying this person has done an outstanding job, but we are not taking him at this time. His unit is advised that he is much better as a result of having been through this and will be an outstanding small unit leader.

Once the selected are chosen, they are put into another phase where they do nothing but train as a member of that six-man team that they will always be a part of for six solid months. It is all live-fire, day and night, under every condition imaginable, so that they develop inter-team procedures for any situation that they are likely to encounter, so that they know exactly how each other will act and their drills are synchronized.

When they finish that phase and they are evaluated continuously throughout that phase, they are integrated into ——— a team ready for missions.

These are the kinds of people we seek. Our people are much more mature than anybody else. The average age is 32, the average grade E–7. They have all had combat experience and spend most of their time away from home in high-risk areas. Most have a college education. Their average GP score is 127. I think Harvard is about 127 to 131, but it only takes 110—to get into OCS [Officers Candidate School].

Mr. MURTHA. You say because somebody is admitted to Harvard, they can get into your program?

General STINER. If he could operate under sensory deprivation conditions, but if you had to stroke him to get him out of bed, no.

Mr. MURTHA. How long does it take to go the 75 miles? Do some of them sleep overnight, most walk the whole 75 miles?

General STINER. They go the whole time.

Mr. MURTHA. They aren't told they have to be there——

General STINER. No. By the time they get to that point in that training, there is no body fat left and their body is eating the muscle to a degree.

What that translates to is we have the finest forces in the world as far as individuals are concerned. They can operate from the lowest possible level dealing with a Bedouin all the way to an ambassador. We have the finest capability in the world. No other nation can come close to the Special Operations capability we have. This has happened in the last six years.

SOF STRENGTH

Mr. MURTHA. What is the total number of your force?

General **Stiner**. Forty-seven thousand.

Mr. **Murtha**. All 47,000 go through this kind of——

General **Stiner**. These that are in this category, those are the JSOC forces ———.

WACO-TYPE MISSION

Mr. **Murtha**. Say you had a hundred people holed up outside the country in a compound where they were maybe religious fanatics. Would you have handled it a little differently than the FBI and ATF handled it down there in Texas?

General **Stiner**. Hindsight is always 20/20. There are a couple of things unique about that vis-a-vis a military situation. One thing is the civilian legalities that are associated with it. The other is pressure from the Justice Department to preserve evidence. They were treating that as a criminal activity. Sixty-seven people they had judged to be criminals, and they wanted to get them out so they could arrest them and bring them to trial.

If we were put in that situation and told that at the appropriate time posse comitatus would be waived, yes, we would handle it like a military action. So that is the difference.

Mr. **Murtha**. It seems to me that if you had captured the leader of the group when he was outside the compound, it would have made a big difference in the way the whole thing ended up.

General **Stiner**. I don't know that he ever came out. I know the snipers had him in plain view a time or two. They had various observation posts set up with video equipment and were watching and I heard that several times he would come to the window and stand in plain view.

Mr. **Lewis**. I heard that within two to four weeks before this initial action occurred, he was out in town.

Mr. **Murtha**. That is what I understood, he was in town.

Mr. **Lewis**. I think if they had taken a close look, they would have had a good idea.

General **Stiner**. Militarily it would be no problem to police somebody up like that if you were permitted to engage someone.

Mr. **Murtha**. At Fort Hood we are talking about troops that are starting to lose their edge, one division, the front-line division, number one priority, is $4 million deficient in training. The other division is already tiered down without the same amount of stress or emphasis.

With all the other things, moral problems involved, pay and frustration and not sure how long you are going to be there, et cetera, it sounds like you are saying that you have been able to compensate for the same level of funding by reducing the long-term effectiveness——

General **Stiner**. That is exactly what I have done.

OPTEMPO

Mr. **Murtha**. What I have been saying to anybody that asks me about defense for this year is that we can get by. You are saying the same thing, but down the road there will be deterioration in your effectiveness because you are unable to do certain things now and we can't pay for them.

Has your tempo of operations slowed at all?

General STINER. My commitments are up 35 percent in support of the regional CINCs. That is normal operations every day in underdeveloped countries doing peacetime engagement type of activities, and it is up 104 percent in the counternarcotics area.

Mr. MURTHA. So your normal operations have been increased by between 5 percent to 35 percent, and yet your funding is at a level rate. Are numbers of people the same?

General STINER. Yes.

Mr. MURTHA. Would deployment for the people that are in be more often, less often, the same?

General STINER. More often. I have the 96th Civil Affairs Battalion, the only Active civil affairs unit of approximately 193 people. They have been gone four holiday seasons in a row. They are in Somalia, over in Bosnia-Herzegovina; they are planning to go into Haiti should that become a requirement. I had to send a civil affairs general yesterday to EUCOM to do the planning necessary in case we receive a major commitment in Bosnia-Herzegovina.

Mr. LEWIS. What is the number again?

General STINER. One hundred and ninety-three, and I have included an additional 85 more in my program this year to try to activate another company to get them relief.

SITUATION IN HAITI

Mr. YOUNG. Comment about Haiti again.

General STINER. We are assisting CINCLANT, the CINC responsible for the Caribbean which includes Haiti and Cuba, in preparing a plan in case a political settlement is made that allows President Aristide to be reinstated. We are going to get involved there to bring Haiti back to a democracy ———. We are planning that now so that we will have a plan and can be responsive to the political decision when it is made.

We are also doing major planning for Bosnia-Herzegovina in case the Vance-Owen plan is implemented.

I expect our requirements this coming year to increase significantly.

UNFUNDED REQUIREMENTS

Mr. MURTHA. Will you ask for more money?

General STINER. Not yet, but I hope this committee will see fit to help us in the out years because I am mortgaging my future so as to preclude having to send untrained forces into harm's way.

Mr. MURTHA. During a news conference at Fort Hood, I said that we couldn't pull off a Desert Storm in the same time frame that we did before. This was not only my judgment, but CINCCENT's judgment. Those conditions were absolutely ideal in Saudi last time.

The other deteriorations we talked about before. I see us moving very quickly towards a hollow force. I don't say that it will happen this year but if we don't slow down the tempo of operations and don't increase training, we will have a hollow force. It is evident to me with the troops.

General STINER. We could well do that. I could fulfill my part of a Desert Storm in 1994. I have submitted a balanced program for 1994, but I have mortgaged the future to do that. I have a latitude that the CG Fort Hood does not, having our own budget and the authority to move money, and that is what I have done.

Mr. MURTHA. The budget you have recommended has been cleared by OSD; you didn't ask for any more even though you anticipated the tempo of operations would be greater?

General STINER. That is correct.

Mr. MURTHA. Mr. Hefner.

Mr. HEFNER. I have no questions, Mr. Chairman. I would just like to welcome the General to the Committee. We have been friends for a long time and had some enjoyable meetings together. Welcome to the Committee. We will be working very closely with you. Happy to have you here.

General STINER. Thank you for your support.

Mr. MURTHA. Mr. Young.

HELICOPTER SUPPORT

Mr. YOUNG. General, the support that you indicated at your last visit for the V–22—should we assume that that support is still as strong as it was then?

General STINER. We think so. We didn't get any money last time because $15 million was authorized but nothing was appropriated for because of the decision the Secretary of Defense had taken. We have taken helicopters to the limit of their envelope. We have the most advanced helicopters in the world, particularly with the MH–53–J that is at Hurlburt and we have upgraded those, and with the MH–60K Army Black Hawk and the MH–47E that is coming on. These birds are air-refuelable. With these, we can go out, a distance of about 300 miles, conduct a mission, loiter in an area for 15 or 20 minutes and get back before daylight. If necessary, we can go further by air refueling, but we have to stay out there and then you are more vulnerable.

So, we have a good mid-range capability, but we don't have a long-range capability. We can put forces in with the Combat Talons, but can't get them out because you have to land a C–130 and have an airstrip upon which to land. So we need technology and the CV–22 looks like it may be a good solution. It would have to be built in the SOF version, which is different than for the Marines. We have to have a terrain following, terrain avoidance radar because we fly through the valleys. We go much longer ranges and it has to have all the defensive systems on it to deal with air defense systems that we may encounter. Upgraded engines and all of this will cost a bit more.

We would welcome the CV–22. The numbers that we have come up with are around 55. As we look to the future, we are going to have something to replace our current system with or we will end up with the same technology we have today and somebody is going to run off and leave us. I cannot afford the CV–22. If it were given to SOCOM with the money that went with it, we would welcome it.

There is no way that I can afford another major weapon system of any kind within the budget that we have.

C–17 AIRLIFT

Mr. Young. I appreciate that and I understand the affordability and your version would be a lot more expensive than the Marine version. We recognize that. We are moving towards maybe getting to the point where one day you could have it without it costing too much.

Another issue we are dealing with this year is the C–17. Where does the C–17 play into your overall scenario? Is that airplane important to you?

General Stiner. Yes, sir, it is. Let me say, first, the C–17 is important to the United States. Our C–141s and C–5As have served us very well, but we have about flown their wings off. The operational ready rate is low because so many are indisposed, being modified for wing cracks. So there needs to be another airplane.

Mr. Lewis. Mr. Chairman, the General is being very positive regarding the C–17. I would like you to hear this.

Mr. Murtha. I want to hear this.

General Stiner. The question was will the C–17 be applicable to SOF and do we need it. I would like to address it in the larger context, it is needed by the Nation. The C–141s and C–5As have served us well, and the CRAF fleet, but we have flown the wings off them. There are not nearly as many in the air today.

Because of this and the commitments they have, we are not receiving the amount of airlift we used to get to train with, so air crews are not as well trained in airdrop operations and neither are our forces. We would have to do more training before we could do another Panama operation with efficiency and readiness.

The C–17 has problems but I was just out at Edwards the other day looking at our new AC–130 gunship that is out there under test. I looked at three C–17s there. There was another off somewhere else doing some kind of testing. They invited me to go fly with them that afternoon. They were going to drop dummies out of it to see if it would be okay for dropping paratroopers.

I was unable to go. However, I was really impressed with that airplane. That is the first time that I have ever set foot in one of those.

I looked at all aspects of it and experts were there to brief me. I went into the cockpit and talked to test pilots. There are a few software problems but as far as its utility, it will have great utility to SOF and to combat units because it can get into more limited type airfields and there are so many more of those kinds of airfields around the world that we can't get into with C–5As or C–141s. It will give us this capability plus a new air frame.

C–141 FLEET

Mr. Murtha. As I understand it, 50 percent of the C–141s have load restrictions?

General Stiner. I think so.

Mr. Murtha. At any rate, your experience is even now you are losing training time because of lack of availability of C–5s and C–

141s. They are either some place else or they are being repaired or something?

General STINER. Yes, sir.

Mr. MURTHA. That, of course, would reduce your deployment time if they weren't available.

General STINER. That is correct.

AIRLIFT REQUIREMENTS

Mr. MURTHA. CRAF doesn't work for your type of operation, we couldn't go to 747s or other wide body aircraft?

General STINER. No, sir, our requirements usually mean a rapid response and we have to launch ———.

Mr. HEFNER. Do you carry troops on the C–5?

General STINER. Yes, sir, we carry 77 upstairs or you can put 400 some in the belly. You stretch straps across. Normally, you don't haul troops and equipment but I moved a whole battalion to Panama one time on a C–5.

Mr. HEFNER. Are you restricted as to where you can land?

General STINER. A C–17 can land on a much shorter field and unimproved runways.

Mr. LEWIS. You answered my question. To me, it was important that it might significantly improve your long-range capability.

General STINER. It will, yes, sir.

DEFENSE BUSINESS OPERATIONS FUND

Mr. YOUNG. I have used a lot of the committee's time. I was going to ask about the AC–130U. The last question was about your budget. Your budget is unique to the other services. Does DBOF become a problem for you?

General STINER. Let me say yes and no. I say yes because we don't know enough about it yet to determine what kind of a problem that it may present to us. We do know that in order to manage all requirements we may have to add some extra people. Also it is going to divert commanders' attention. They are going to end up as paid time bookkeepers and managers instead of being out with the troops focusing on readiness.

As far as the advantages, we might to able to do things cheaper or get some money back. We are just going to have to get into this and I would hope that we go slow enough so that we don't screw ourselves up in the process.

Mr. YOUNG. Okay. If you would comment on the 130–U later, I yield my time.

CENTERS OF OPERATIONS

Mr. LEWIS. Where is your center of operations?

General STINER. My headquarters is at MacDill Air Force Base in Tampa. The people of the Army forces are located at Fort Bragg, United States Army Special Operations Command, Headquarters with the Green Berets except those that are stationed overseas, the Civil Affairs and the PSYOP forces.

The 160th Special Operations Aviation Regiment is located at two post in the United States. The Regimental Headquarters and two battalions are located at Fort Campbell, Kentucky and one battalion is located at Hunter Army Airfield, Savannah, Georgia.

The SEALs are split between the two coasts—the ——— at Dam Neck, Virginia; Naval Special Warfare Group 1 is at Norfolk; Group 2–S on the West Coast at Coronado, the Navy Special Warfare Headquarters is at Coronado.

Air Force Special Operations Headquarters is at Hurlbut Field in Florida. We have a C–130 training area at Kirtland, AFB New Mexico, and training for search and rescue and Pave Low helicopters crews.

We have forces permanently stationed in Europe. We have an Air Force group, a special operations group that is over there that consists of a composite wing that has HC–130 tankers and MH–53–J Pave Low helicopters in it, and there is a special forces battalion headquarters there.

We have a group in the Pacific that is split between—they had to relocate after Mount Pinatubo so the Air Force wing headquarters is at Kadena AB, Okinawa, with the tankers and the Combat Talon I aircraft and Combat Talon IIs, also in Europe, and the 53–J Pave Low helicopters are at Osan, and Korea. A special boat unit is in Guam.

We have a special forces company and a special operations aviation unit in Panama.

NATIONAL TRAINING CENTER

Mr. Lewis. I have been trying to talk to members of the Committee about going to the training center at Fort Irwin on more than one occasion. It would be interesting to visit a training session with them some time.

General Stiner. We would love to have any of you visit at any time. Be glad to have you.

AC–130U AIRCRAFT

Mr. Young. Tell us briefly about the AC–130Us.

General Stiner. There will be a total of 13 of them. All air frames have been bought. This is a case where we take a C–130H air frame and put in it weapon systems, a new low light level television system, a modified F–15E radar, and tie that with the most advanced software in the world. This will be the most sophisticated surgical weapon system in the world—it has more lines of software code than the B–1 and the AWACs. The new "U" model will replace the two 20 millimeter gatlin guns that the H model has with one 25 millimeter modified GAU–12 that came out of the AV–6B. It has a much greater range, and much more destructive power. Like the H–model it will have one Bofors 40 millimeter cannon firing enhanced ammunition and a 105 millimeter Howitzer firing with penetrator ammunition.

Not that we want to get into the business of killing tanks, but we need the capability to bust buildings. Something that will penetrate down through two or three floors of a reinforced concrete building to clear everybody in there out so we don't have to send young Americans in trying to clear the thing.

The modified F–15E radar and the low light level television system allows it to see at night. This will be tied together with the most advanced fire control computerized system that has been developed to our knowledge.

It can be pressurized so it can deploy faster than the H-model. The H-model's normal engagement altitude is about 6,000 to 8,000 feet can be impeded by cloud cover. The stand-off altitude for the U-model to engage will be between 12,000 and 24,000 feet. It will have defensive systems similar to the H-model on it. It can engage two targets concurrently, separate targets, and it has demonstrated that very accurately.

It is shooting today with the radar. A member of the committee staff has been there and flown on it. It has problems because the low light level television system hasn't completed development yet. Rockwell went with a subcontractor, Ball Aerospace, to develop that and when Ball delivered it, the thing was made for a space age satellite or something. It was not maintainable and was not useable. So the Air Force, who manages the program, terminated that effort and went with another manufacturer.

The new low light level television system should be delivered this summer and it will be put in and tested. We have programed $29 million to cover additional testing and software integration as a result of this. I am going to give you my best estimate after talking to General Ferguson. We will have these birds tested, the bugs worked out, and flying late summer or fall. Eight have been built. It doesn't come without cost because of the problems that have been encountered in concurrency.

We knew this was a high-risk program from the beginning and the $10 million lost in the developing a new radar, in the outyears, the 1994 program remains executable. But to complete the program across the FYDP will take an additional $220 million over what has been programmed and the way that breaks out is $120 million for procurement and the rest for RDT&E.

Did I say flying late 1993—it will be useable in 1994, next summer. So we are looking forward to it. In the meantime, we are upgrading the nine H-models left. We lost one supporting the Marines, with 14 outstanding airmen on board.

The upgrade of eight of our nine H-models is complete. Operationally ready rate is the highest that we have ever experienced. They are the best right now. They will go to the Reserve and the A-models, the Vietnam vintage models that we can't maintain anymore, will be phased out.

Mr. **Murtha**. Mr. Hefner

Mr. **Hefner**. No further questions, Mr. Chairman.

Mr. **Murtha**. Mr. Visclosky.

AIR CREW TRAINING

Mr. **Visclosky**. Thank you, Mr. Chairman.

General, in your comments about the C–17 you had mentioned that the wings were coming off of the C–5s and the 141s. That is not necessarily true of the C–5s.

General **Stiner**. No, those are in pretty good shape.

Mr. Visclosky. You indicated that the jet air crews are not as well trained because of the shortage of numbers of aircraft available at any point in time. Could you elaborate on that? Are you talking the ability of your troops based on their——

General Stiner. My troops and the 82nd Airborne Division. JAAT, Joint Army Air Force Training, is a program that has existed for a long time where the Air Force has certain wings dedicated to the forced entry mission, and they train with Army in order that each may maintain proficiency. Because of the demands on the Air Force in the last couple of years, since we got involved in the Desert Shield/Desert Storm, they have been hauling equipment and other things, relief supplies to Somalia, to Bosnia-Hercegovina, and so on. Airplanes have been breaking. The priority on the program assigned on the national mission. The training with the forces that they will take into combat has waned and so has the training for the crews that will fly them into combat. That is the problem that we are up against. I have notified the JCS of this. I've spoken with General Powell a couple of times. I and Ron Fogleman, the new Air Mobility Commander, have been trying to work a solution where we can take a certain number of planes out of the system and dedicate them to the JATT so that we can get the training proficiency back up to where it should be. I have gone so far as to lease the North Carolina fire fighting bird, the old C-47 that flies around down near Fort Bragg. We are jumping out of that.

The problem is we can maintain proficiency from that, but he ain't going to war with us.

Mr. Visclosky. In the past in terms of training, have you had aircraft designated solely for training that would not otherwise be available for cargo except for emergencies?

General Stiner. Certain squadrons are.

Mr. Visclosky. When did that program cease?

General Stiner. It hasn't ceased yet, but higher priority has been given to the requirement of supporting peacekeeping operations.

Mr. Visclosky. Even though they are dedicated, another priority higher than that designation would comply? Do you think there is a genuine lack of craft relative to the training components and its prioritization?

General Stiner. Correct.

Mr. Visclosky. Would you have figures for the committee in terms of say the 82nd, that would show the decline in training hours over the last few years?

General Stiner. I can cause the Army to produce those for the 82nd. I can give them to you for Special Operations Forces. The Rangers would be a good example.

Mr. Visclosky. I do not want to put people to undue work but if I could have an example in terms of Special Forces, I would like to have that.

[The information follows:]

The Joint Airborne/Air Transportability Training (JA/ATT) program is the primary means in which airborne, air mobile forces, and aircrews receive joint training. Air Mobility Command (AMC) provides the aircraft and aircrews to conduct this training through their operation and maintenance (O&M) budget. The JA/ATT program is used to maintain combat operational readiness Service-wide. However, recent budget cuts, reduction and realignment of airlift assets, and recent world events have exacerbated the support dedicated to joint training. Hurricane relief, humanitarian relief and assistance, drug interdiction, and presidential support have a higher Joint Chiefs of Staff (JCS) priority, resulting in a significant reduction in an already inadequate JA/ATT program. The attached chart shows the reductions in recent years for hours dedicated to Forces Command who oversee the flying hours for the majority of Army forces, including the Army special operations forces (SOF). Since 1986, the JA/ATT program has been drastically reduced with Army support going from a total of 43,000 flying hours in 1986 to 14,053 for 1993. A further breakout and comparison for SOF support compared to the 82nd Airborne Division is shown below.

Unit	Hours flown FY 91	Hours flown FY 92	Flown and/scheduled to June 93 FY 93
Army SOF	4,187	3,318	3,323
82nd Airborne	5,841	4,640	3,713

The flying hours shown support eight special forces groups, three Ranger battalions, plus the Ranger and Special Forces Headquarters personnel. Continued reductions in the JA/ATT program will impact airborne proficiency and jeopardize the Army and Air Force ability to conduct airborne tactical operations and, more importantly, the ability to conduct global forced entry missions. JCS is currently reviewing the priority for JA/ATT missions and funding support for the program.

Mr. VISCLOSKY. In terms of training with the collapse of the Soviet Union we have been engaged increasingly in humanitarian disaster relief assistance. Have modifications taken place in the training of Special Operations Forces?

TRAINING AND MISSIONS

General STINER. Not really because missions like that fit right into what we train for every day and the Special Forces that would perform those missions are very versatile in that regard. Many will be language qualified, culturally attuned, or oriented sufficiently so that they understand the culture, the infrastructure, the mores, and as much about the environment as they possibly can. So there is no additional training per se that would prevent us from being effective, from going right into a requirement like that.

PEACEKEEPING AND HUMANITARIAN ASSISTANCE

Mr. VISCLOSKY. In terms of peacekeeping and humanitarian efforts?

General STINER. That is correct. That is another great advantage to Special Operations Forces. The versatility and the capabilities we have that conventional forces do not, such as language, medical, cultural training, et cetera.

FY 1994 TRAINING PROGRAM

Mr. VISCLOSKY. In your 1994 budget request, are you adequately funded for that training program?

General STINER. Yes. Like I indicated awhile ago, I have had to take from the out years to make sure that we have enough O&M.

Mr. MURTHA. He is taking money from R&D this year which means that they will have a deficiency down the road but, consequently, he has enough money for O&M next year.

General STINER. For example, we will meet any mission that we are given to meet. DESERT STORM, PROVIDE COMFORT, taking care of the Kurds, the Subic Bay relocation, INTRINSIC ACTION (that was the aftermath in Kuwait, we are still there). PROVIDE RELIEF in Somalia, Kenya, RESTORE HOPE in Somalia and PROVIDE PROMISE in Yugoslavia and others. I have spent $10.426 million this year, all unprogrammed. The only reimbursement that could be applied against this is $4.9 million extra left over from what we got paid back for DESERT SHIELD/DESERT STORM and I was able to, under the rules, to apply that to this shortfall. So I am already in the hole, say $5 million, and my requirements are continuing. I expect we are going to be committed for a good while. The staff estimates that the total forecast will be about $33 million and you can subtract $5 million from that. These kinds of things you can't predict, but we have to be prepared to respond, and we will.

SOF WORLDWIDE COMMITMENTS

Mr. VISCLOSKY. I have talked to a number of people about these humanitarian missions, peacekeeping missions, and as you indicated in your response earlier, these are not new missions in terms of their classification and type. What is your sense of these missions relative to five and ten years ago in terms of numbers of contingencies that we are responding to? Are there more of them, are they commanding more of our resources or has that been fairly constant?

General STINER. There are more. Our commitments are up for two reasons. One is the regional CINCs that are responsible for the world—there are five of them—under the Unified Command Plan, they are responsible for the various geographic regions of the world. They are doing a better job in having comprehensive regional plans that are appropriate for addressing the problems in their respective regions, and they understand the utility of Special Operations Forces and the applicability of those forces to the problems in their regions and they are using them. Another thing that causes our commitments to be up is we have started a program whereby in coordination with the State Department we bring all new ambassadors to Fort Bragg and orient them on the capabilities of these forces for peace time engagement activities, to help solve the problems in the respective country they may be going to, as well as what support to expect from us in a crisis situation. We also do a table top exercise with them in a crisis action scenario.

They better understand our forces as a result of this, and are more prone to use them.

They welcome our help in the peacetime engagement or nation building situations as well as those that go into the treaty countries to do evacuation planning and to do other kinds of things (security surveys for their embassies, route reconnaissance, selecting drop zones etc.). So part of the increased commitment is that.

But a big part is the unstable world that we live in now as compared to what it was five or six years ago. Five or six years ago there were two world powers that controlled the world, the U.S. and the Soviet Union.

When the Soviet Union was an entity, many of these Third World countries, in fact most, looked to the Soviet Union for their lifeblood . . . It was. They received their political support in the international arena from the Soviet Union, they received their military support in terms of hardware and advice and assistance, and they received their economic support by and large from the Soviet Union.

And as such, the Soviet Union owned their souls and they danced to the tune that the Soviet Union played.

By virtue of the fact that the Cold War was going on, we had some leverage with the Soviet Union and could control some of these Third World countries to a degree. But when the wall came down the Soviet Union went away. While all of that was happening not one thing happened to alleviate any of these conditions that make these Third World countries the realities that they really are.

I am talking about governments dominated by fundamentalist religious beliefs, proliferation of weapons of mass destruction like we have never seen before, narcotic trafficking and narcotic terrorism, ethnic and religious strife and violence.

Mr. VISCLOSKY. Business is up.

General STINER. That is right. They have been turned loose to pursue their own goals and their goals and objectives will most likely be inimical to ours. There are 46 situations in the world where people are killing each other, shooting each other. So we say that the world today is less stable than it was before the Wall came down but there is no need to be afraid of it because if we look at it realistically, it also provides greater opportunities for achieving peace and freedom and democracy and shaping our environment, the national security environment in the future.

Mr. VISCLOSKY. Thank you very much.

Mr. MURTHA. Mr. Skeen.

COMMUNICATIONS EQUIPMENT

Mr. SKEEN. I have a quick question, a basic one. Basically our operation is a communications system and I understand that you have had shortages in the SOF unique and communications equipment. What is the status of that now?

General STINER. Thanks to this committee and I believe it was about $200 million that you gave us to procure communications equipment, we have solved most of those problems.

Mr. SKEEN. So you are relatively up to date?

General STINER. Yes. The problem is still with some of the SAT COMs, we buy those through the Army. They have the contract and the contractor can't turn them out fast enough. We have solved most of these problems however. For example, part of the pay back. ———.

Mr. SKEEN. At least you have that capability.

General STINER. Yes, sir, thanks to this committee.

JASORS

Mr. SKEEN. What about JASORS?

General STINER. JASORS is coming along. We are behind about one year because it is going to delay production schedule as we are short about $2 million in fiscal year 1994 RDT&E, and $2 million in 1995 for procurement funds.

But JASORS is coming along. We ought to get the test items in 1995, production ought to start in 1996—production should start in 1997. JASORS no doubt is going to be the most advanced system in the world. I am currently reviewing JASORS from the affordability standpoint because it is going to be a very expensive program and I just don't know—even though it is stretched out beyond the turn of the century, whether we need everything that we've got there or not, or whether we can afford it. When I finish that review, I will let you know.

Mr. SKEEN. Affordability is a basic question but can you afford not to have it. With the up to date and latest technology, without that you are disarmed?

General STINER. It will be up to date and will also reduce the loads that those special operators have to carry. The average weight of the rucksack of the normal Special Operations Team, six man, that was put 200 miles deep in northern Iraq was 125 plus pounds. What was in those rucksack to make each weigh that much, was: One man was carrying an URC 101 SATCOM radio with a KY 57 secure device so he could communicate back to the home base in ArAr, Saudi Arabia. Another man was carrying a LST 5 SATCOM, less weight but also less capable, just in case something happened to the man with the more capable radio.

Another man was carrying a HF radio in case something happened to both of these. Two men were carrying PRC 113 radios so they could contact AWACS and get close air support in case they were bounced by Iraqi forces or to hit specific targets that they were sent in to hit. Two men carried 27 pounds each pony laser designators so they could laze the targets and the smart bombs could do their work.

They were carrying five days worth of batteries, three days worth of ammunition, two and a half gallons of potable water per man, one days worth of rations, and only the clothes they had on, and it was colder than the devil in some of those places. They couldn't carry more. Some teams did get busted up, and had to drop a lot of this stuff because they couldn't carry it and still fight and survive. JASORS will replace two-thirds of those radios and devices and probably eighty percent of the more batteries than they were carrying.

Mr. SKEEN. Thank you, very much. Thank you, Mr. Chairman.

Mr. MURTHA. Any other questions?

USE OF SIMULATORS

Mr. HEFNER. We were talking about training—do you use simulators?

General STINER. Yes.

Mr. HEFNER. Are they an advantage to you? I know you can't use them everywhere.

General STINER. We use simulators where we can. We have flash-bang devices, shock devices when you go into a room, throw that in there and shock the terrorist or anybody in there, and that gives you a couple of seconds. Other than that about all the training we do is live fire.

Mr. HEFNER. Do you use simulators for aircraft crew training?

General STINER. Yes—we use simulation to the extent possible in training our own crews.

Mr. HEFNER. Thank you, Mr. Chairman.

Mr. MURTHA. Thank you very much, General.

General STINER. Thank you. I want to say that I wouldn't say that this is my last appearance before this Committee because you can never tell what might happen in the future, I might get extended or be court-martialed or something. I am scheduled to hang it up about 20 May. I complete 35 years service next month unfortunately. But I want to thank all of you for the great support that you have given the U.S. Special Operations Command and to me personally.

Mr. MURTHA. As I said in opening the Committee, we certainly owe a debt of gratitude to your special talents and contributions to the defense of this great country and we are going to miss you as you retire but we know that you will be busy.

Mr. HEFNER. Just a word—coming from Tennessee I happen to know on good authority that General Stiner is a personal friend of Dolly Parton's so he is probably going to do some kind of special services.

General STINER. I wish I could link up with Dolly. There is not much I can do having this head of agency authority.

Mr. YOUNG. We would be happy to have you stay in Florida.

General STINER. Thank you very much.

Mr. MURTHA. Thank you, General. There will be additional questions for the record. The Committee is adjourned until next Tuesday.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

COMANCHE HELICOPTERS

Question. General Stiner, it is my understanding that the special operations forces are to receive some of the first Comanche helicopters. You made no reference to this advanced helicopter capability in your statement. Is the Comanche still a priority requirement for the special ops?

Answer. The Comanche helicopter developed by the Army is being looked at by special operations forces (SOF) as a candidate to replace some missions/roles currently being performed by the AH-6. The Comanche, however, cannot replace the AH-6 entirely. Currently, the United States Army Special Operations Command, the Army's component to SOF, is developing a SOF annex to the Comanche's operational requirements document.

V-22 PROGRAM

Question. General, you have stated that the number one deficiency in the special operations is the ability to conduct long range infiltration-exfiltration of the special ops forces. Now that the Navy has pledged its support to the V–22, do you envision being able to meet that deficiency with a special ops variant of the V–22.

Answer. Yes, a special operations forces (SOF) variant to the V–22 could satisfy this deficiency. Although our COMBAT Talon fleet is capable of accomplishing the infiltration mission, our primary problem is with the successful exfiltration of SOF assets. This deficiency was to be satisfied by the SOF variant of the V–22 tiltrotor joint program (originally called the CV–22) which was cancelled in 1989. Last year, I submitted an operational requirements document for the Multi-mission Advanced Vertical Lift Aircraft (MV–X) to the Joint Requirements Oversight Council. This document details the specific requirements I feel are necessary for the SOF variant of the V–22 to satisfy this deficiency. The V–22 is the only platform capable of being modified to fulfill this requirement. Because of affordability concerns, I feel that this requirement can best be satisfied by a joint V–22 program.

Question. It's my understanding that the special operations command will be briefing the Joint Requirements Oversight Council (JROC) at the end of this month, to win their support of restoring the V–22 variant to the joint program. General Stiner, will you be presenting the briefing to the JROC? Do you foresee any obstacles to the JROC re-accepting the V–22 variant? How much has the special operations invested in this effort?

Answer. Our Multi-mission Advanced Vertical Lift Aircraft (MV–X) briefing to the JROC is currently scheduled for May 27th. The briefing will be presented by the Air Force Special Operations Command (AFSOC), which is our proponent for this program and the Air Force's component to the U.S. Special Operations Command (USSOCOM). Our requirement for a special operations forces (SOF) variant to the V–22 aircraft, the MV–X, (formally known as the CV–22) has been very carefully enunciated and I believe that the JROC will be supportive. I think that the JROC's primary concern will be with affordability—as is ours. SOF has spent $45 million on SOF unique systems to date. SOF variant funds were withdrawn when the program was cancelled. This funding will have to be reinstated in order for SOF to pursue this program, which will impact the TOA of each of the military Services.

Question. Since the V–22 program finally has OSD support, wouldn't you agree that it is equally as important to get this joint program back on track?

Answer. Yes. As I have stated, the special operations forces (SOF) variant to the V–22 tiltrotor joint program was envisioned to be the solution to our number one deficiency. SOF does not have the funding available to procure the variant.

Question. What will the FY94 requested funds provide?

Answer. Assuming special operations forces (SOF) are allowed to participate in a joint V–22 program, $20 million in FY1994 research, development, test, and evaluation (RDT&E) funds to continue SOF participation in the V–22 development program is needed. Of these funds, $15.5 million will be used to continue engineering and manufacturing development with the contractor for integration of SOF-unique avionics, mission equipment, and associated logistics support analysis. In addition, $500 thousand will be needed to complete development of the terrain following radar with an additional $4 million needed to support government operations to include flight testing, program management, and studies. If a SOF-only V-22 program is pursued, significantly more funding would be needed for additional flight testing, test aircraft, redesign, and logistics development.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks. Questions submitted for the record and the answers thereto follow:]

PERSONNEL REDUCTIONS

Question. How has the Service's manpower reduction actions (SERB, SSB, & VSI benefits) impacted on your ability to maintain the forces?

Answer. Special operations forces (SOF) has been impacted by the reduction programs but to a lesser degree than the Services as a whole. We are making every effort to minimize the effect of drawdown programs on the health of SOF and have resisted the idea of across the board Service cuts as not being in the best interest of the Service and specifically SOF. Particular skills have been more severely impacted than others. We are continuing to make every effort to protect areas of concern, specifically Army Psychological Operations officers who opted for the VSI/SSB at a higher rate than anticipated in FY1992. I am concerned about the possible impact of the recently announced 15 year retirement program on SOF, specifically on our already understrengthed SEAL O4s and O5s. We will continue efforts to minimize the impacts of all these programs by monitoring participation and, where necessary, seeking relief.

Question. With the planned reduction of forces in 1994 through 1997, will the Special Operations Forces take a "fair share" cut? Should SOF take a proportionate manpower cut?

Answer. Due to the increased involvement in peacetime engagement activities, increased tensions throughout the world, and the proliferation of destabilization, special operations forces (SOF) are not scheduled to be reduced commensurately with conventional forces.

In answer to your second question, SOF should not be required to take a proportionate manpower cut. This is because, although the threat to conventional forces has decreased with the demise of the former Soviet Union, those threats that are best countered by SOF have increased during the same time.

As SOF are the most ready and mobile of our military forces, it is inappropriate to reduce structure until revision of the national military strategy is complete. Current planning, which includes regional Commander in Chief requirements, already puts at risk the capability to perform peacetime engagement activities.

Question. What is the ratio of SOF Active and Reserve Personnel?

Answer. Currently, about 3:2 Active to Reserve. The actual figures are 27,505 Active and 17,420 Reserve for a total of 44,925 military.

Question. Do you plan to standup an Active Civil Affairs unit? Is there a plan to downsize any Reserve Civil Affairs unit?

Answer. Yes, a Civil Affairs (CA) company will be stood up in 1995 as a subordinate unit to the 96th CA Battalion at Fort Bragg, North Carolina. The strength of that company is 42. Our current planning for the POM 1995–2001 is to add three additional CA companies to the structure, making it the second Active CA battalion. The approximate strength will be 216. The unit is critical and required to meet theater Commander in Chief (CINC) requirements and the current and growing numbers of peacetime engagement activities worldwide. The demands of this unit have been so great over the past four years that a majority of unit members have not spent even one Christmas at home. Due to mission lengths, frequency, required availability, and timeliness of availability, Reserve CA units have not been able to alleviate this situation. The only alternative to meet the growing demand for CA support, and to give soldiers in the unit a reasonable quality of life, is an additional Active CA battalion. According to the U.S. Special Operations Command (USSOCOM) Joint Mission Analysis and Force Structure Review, two Active CA battalions will meet the majority of peacetime engagement activities and contingency requirements of the theater CINCs.

Based on regional CINCs' mission requirements, reduced threat of global conflict, and the downsizing of the conventional Active forces, USSOCOM has recommended the inactivation of eight Army Reserve CA units.

In this process, intense analysis was conducted regarding the type and mix of the special operations forces (SOF) force structure required to meet the national military strategy and theater CINCs' requirements. The end result, was that regional CINC requirements, changes to the threat, force availability, and the downsizing of the Active general purpose forces, eliminated the need for the eight Reserve CA units. The majority of these units were in direct support of conventional units orientated against the former Soviet Union and the Warsaw Pact. With the inactivation of the U.S. Army VII Corps and subordinate units, the requirement for these eight Reserve CA units ceased to exist.

These units were not in the USSOCOM FY1994–1999 POM for the same reasons. However, the Reserve CA units were restored in the budget through Department of Defense action. This was based on a pending study by the Secretary of Defense. USSOCOM, however, continues to plan for these reductions based on valid mission needs and requirements.

THEATER ARMY SPECIAL OPERATIONS COMMAND

Question. Last year this Committee directed that funding for the Special Operations Commands be transferred to MFP–11, and that the Theater Army Special Operations Support Commands (TASOSCs) be restructured. Please provide an update on how you have been complying with this direction.

Answer. The FY93 Defense Appropriation Act provided MFP–11 O&M and Procurement funding and transferred civilian and military end strength from the Service to USSOCOM for theater Special Operations Commands (SOCs) for FY93. Program Budget Decision 744 provided MFP–11 funding for FY94 and beyond as well as providing for a realignment of personnel end strength from the Service to USSOCOM. This realignment was to ensure that the manning of the SOCs is at a level commensurate with other elements within the joint headquarters. SOCs' funding profile follows:

[TOA, dollars in millions]

	FY93	FY94	FY95	FY96	FY97	FY98	FY99
USSOCOM:							
O&M	+13.1	+12.2	+10.3	+9.6	+10.1	+10.3	+10.6
Procurement	+10.5	+10.5	+10.5	+10.3	+7.5		

SOCs are funded through USSOCOM Headquarters in accordance with the DOD policy and funds are distributed through existing Service channels. USSOCOM coordinated with the theater Command in Chiefs (CINCs) about SOCs' financial requirements and established budgeting and accounting procedures to meet these SOCs' requirements.

Implementation of the findings of the June 1, 1992, U.S. Special Operations Command (USSOCOM) TASOSCs study is on schedule. The TASOSCs study concluded that: the doctrinal missions were valid; TASOSCs should remain under control of theater Army; the intelligence functions were joint and duplicative, and should be eliminated; TASOSCs have no operational mission and should not give operations directions; organization design should be changed to meet mission requirements; and the manpower should be reallocated to meet priorities. The U.S. Army Special Operations Command (USASOC) has developed a new TASOSC organization design which eliminates the joint intelligence functions, emphasizes the Service support and sustainment functions, and streamlines the organization from 99 to 66 personnel. The new organization will be implemented in October 1994. This change in organizational structure will correspond with the increase in SOC manpower to assume functions transferred from the TASOSCs. Simultaneously, redistribution of manpower among the TASOSCs, brought about by the changes in organizational structure, will be completed. Each of the five TASOSCs will have a relatively equal amount of manpower. Along with organizational changes, changes to doctrine and the concept of operation of the TASOSCs will be accomplished and documented by October 1994.

SPARE PARTS

Question. I am finding during my trips to the field that procurement for spare parts for SOF-unique systems is your responsibility.

Do you know of any shortages of spares for SOF systems or equipment?

Answer. There are no shortages of both Service common and special operations forces (SOF) peculiar spares. The majority of our weapons, radios, and unit equipment items are Service common and are procured with Service funds . . . not MFP–11 funding.

As a result, reductions, such as funding cuts to Air Force Depot Program Equipment Maintenance (DPEM), have caused Service common shortages in SOF. "Fair share" reductions in the funds to our Air Force SOF Air Logistics Center at Warner Robins, Georgia, have slashed funds needed to buy and repair vital spares. As a result, the repair cycle slows to a stop, and consumables just don't get procured in required amounts.

The congressionally mandated 65 percent stock fund obligation rate cap is also impacting the availability of spares in all the Services. This limit is preventing the depot item managers from buying parts at required levels. In some cases, even if the units have money there is no inventory of common parts on the shelf to buy.

As for truly SOF peculiar systems, such as the COMBAT TALON II, AC-130U, MH-47E, MH-60K, MH-53J, and others, the problems center on development, modification, provisioning, and contractor long lead time spares. These systems are all either undergoing development growth curves or modifications, which inherently cause shortages as existing spares are procured or modified to the proper configuration. With proper funding, these problems will decrease as deliveries and modifications to SOF systems reach completion late in the currently programmed fiscal years.

ARMY HELICOPTERS

Question. The MH-47E and MH-60K helicopter once fielded will provide the Special Operations Forces unique capabilities for low level flight in adverse weather, extended range and precision navigation through unfamiliar mountainous terrain.

General Stiner, I understand that this program continues to have both schedule and cost growth problems. SOCOM has reprogrammed a total of $27 million into this program this year, and the 1994 request contains $19.1 million of R&D funds and $7.7 million in procurement.

How much more will it cost before these aircraft are fielded?

What actions are being taken to get costs under control?

Is this modification program still considered affordable?

Answer. Yes, this modification program is affordable and the current funding level is sufficient to complete fielding of these aircraft. All development efforts, other than the Multi-Mode Radar (Terrain Following/Terrain Avoidance), have been accomplished within the funded program. The FY1993 funding was: RTD&E—$2.6 million, Procurement—$9.9 million, and O&M—$47.2 million. The FY1994 requirements, RDT&E—$19.2 million, Procurement—$7.6 million, and O&M—$53.0 million, will be sufficient to complete the concurrent aircraft Multi-Mode Radar qualification testing and support the training and fielding for both the MH-47E and MH60K aircraft. The aircraft will be fielded in FY1994 to support training followed by material release in FY1995.

All 23 production Blackhawk MH-60's and 26 production Chinook MH-47's have been procured. Remaining modifications to these aircraft require installation of Aircraft Survivability Equipment, a new software processor jointly developed with the Air Force, and Electromagnetic Environmental effects hardening of some aircraft electronic components. The modifications are being applied concurrently, which ensures all development specifications have been met and that the aircraft will be ready for training in FY1994. Funding limitations to the FY1994 requirements could impact on the completion of Electromagnetic Environmental Effects fixes.

Initiatives to contain cost growth have proven successful. I have taken measures to align funding commensurate with program requirements to ensure compliance with Congressionally mandated testing. Cost growth experienced in this concurrent developmental program has been manageable and will not detract from the completion of this success oriented aircraft program. The program manager has commitments from the two prime contractors (Boeing and Sikorsky) that the cost of any slip to the program, resulting from IBM's failure to deliver software on time, will be borne by them.

The major impacts to special operations aviation (SOA) in the past were termination of the V–22, which increased the Multi-Mode Radar and Integrated Avionics Subsystem costs, and changes in DoD milestone/test policies. We believe that the big hurdles are behind us. However, to promote improved cost controls and program visibility, TEAM SOA was established by Aviation Program Executive Officer and the U.S. Army Special Operations Command (USASOC). This brings all the program participants and their leadership from the military and contractors together to dissect the program on a quarterly basis. Team membership includes: CEO Boeing helicopter CEO Sikorsky, IBM Federal Sector Division Vice-President, PEO Aviation, Commander USASOC, Unit and Army test and operational representatives. I personally participated in this review last week. This forum presents an opportunity to expose current or perceived problems and have the decision makers directly involved to solve it.

Question. The MH–47E/MH–60K helicopter logistic plan calls for contractor life cycle maintenance support including civilian support of tactical deployments worldwide.

Is the use of civilian support personnel on tactical deployments compatible with the missions envisioned for these aircraft?

Answer. Yes. Organizational maintenance for these aircraft will be performed by military personnel assigned to the unit. Life cycle Contractor Support (L–CCS) will involve the main technical maintenance requirements for these state-of-the-art machines and will be compatible with special operations forces (SOF) missions.

The contractor will support worldwide deployments, providing repair cycle maintenance on special operations aviation (SOA) peculiar components. Contractor personnel will only provide repair services as noncombatants and will not operate weapons in combat, perform services aboard aircraft engaged in combat, or arm or refuel aircraft for combat sorties. All of these tasks will be carried out by military personnel.

This concept was well proven in DESERT STORM. SOF helicopters were supported by DynCorp and Hughes service technicians with outstanding results. Serv-Air deployed and established computer repair for the theater. Global Positioning Systems also received theater support from contractors. Joint Surveillance Target Attack Radar System (JSTARS), one of the major success stories of the war, was virtually all contractor supported.

Service logistics doctrine is currently being redefined to encompass L–CCS concepts. Included in this change is life cycle support which features deployment and employment roles for contractors. This is being driven by the downsizing of forces and the need to achieve greater levels of efficiency. Given the small number of SOF aircraft in the MH-47E/MH-60K program, and their unique technical complexity, contractor support presents a much more cost effective option than the extended costs of organic capability.

Question. In the fiscal year 1993 House report, the Committee expressed its concern that the operational effectiveness of the SOF MH-47E and MH-60K helicopters may be limited by crew availability. The Army has agreed in principle to increase the flight crew ratio from 1 to 1.5 per aircraft. However, the fiscal year 1994 budget request does not show an increase in military end strength for the Army aviation battalion.

When does the Army plan to provide the manpower to increase the helicopter crew ratio to 1.5 per aircraft?

Answer. The additional manpower will be authorized by the Army in increments, beginning in 1995 with 38 authorizations, growing to 78 in 1996, and to the final 120 in 1997.

[CLERK'S NOTE.—End of questions submitted for the record.]

Tuesday, May 11, 1993.

SPACE AND RELATED PROGRAMS, DEFENSE

WITNESSES

DR. GEORGE R. SCHNEITER, DIRECTOR, STRATEGIC AND SPACE SYSTEMS, OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION

MAJ. GEN. DONALD G. HARD, USAF, DIRECTOR OF SPACE PROGRAMS, OFFICE OF THE ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION

BRIG. GEN. RONALD E. ADAMS, USA, DIRECTOR OF REQUIREMENTS, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS, DEPARTMENT OF THE ARMY

REAR ADM. WESLEY E. JORDAN, JR., USN, DEPUTY DIRECTOR, SPACE AND ELECTRONIC WARFARE, OFFICE OF THE CHIEF OF NAVAL OPERATIONS

Introduction

Mr. Murtha. The Committee will come to order. Appearing before the Committee today are Dr. George R. Schneiter, Director, Strategic and Space Systems, Office of the Under Secretary of Defense for Acquisition; Major General Donald G. Hard, USAF, Director of Space Programs, Office of the Assistant Secretary of the Air Force for Acquisition; Brigadier General Ronald E. Adams, USA, Director of Requirements, Office of the Deputy Chief of Staff for Operations and Plans, Department of the Army; and Rear Admiral Wesley E. Jordan, Jr., USN, Deputy Director, Space and Electronic Warfare, Office of the Chief of Naval Operations. If you will put your detailed statements in the record and summarize for the Committee, we will get to the questions.

Summary Statement of Dr. Schneiter

Dr. Schneiter. It is a pleasure to be here today to discuss the DOD space programs and, in particular, those activities included in the President's fiscal year 1994 budget.

I have a few opening remarks and will ask that my prepared statement be placed into the record.

Before starting, I would like to introduce the other DOD witnesses. Seated with me here are Major General Don Hard, Director of Space Programs, Office of the Assistant Secretary of the Air Force for Acquisition; Rear Admiral Wesley Jordan, Deputy Director of Space and Electronic Warfare, Department of Navy; Brigadier General Ronald Adams, Director of Requirements, Office of the Deputy Chief of Staff for Operations, Department of the Army.

Seated behind me are Colonel Ray Barker, Strategic and Theater Nuclear Forces, Command, Control, and Communications in the

Office of the Assistant Secretary of Defense for C3I; Captain Ed James, from the US Space Command; Mr. Ronald Murphy, Director of Advanced Systems Technology at the Advanced Research Projects Agency (ARPA); and Colonel Patrick Kern, Deputy Director, Military Satellite Systems Engineering, Defense Information Systems Agency.

Mr. Chairman, space forces meet a wide range of requirements of critical importance to the Department. The global coverage, high readiness, rapid responsiveness, forward presence, and flexibility enable them to support military operations in peacetime, in crisis, and across the full spectrum of conflict.

Recently, experience has vividly demonstrated this for disaster relief, humanitarian assistance, peacekeeping, and, of course, major regional conflicts. However, these experiences also revealed some shortcomings that must be addressed.

The DOD space budget request for fiscal year 1994 is approximately $15 billion, up slightly from the fiscal year 1993 request. The majority of this is included within the Air Force budget, as they are the lead organization for most of the satellites and space launch acquisitions.

The detailed breakout of the DOD space budget that you requested will be provided.

[The information follows:]

DOD SPACE FUNDING BY OMB CATEGORY FISCAL YEAR 1994 PRESIDENT'S BUDGET

[In thousands of dollars]

	1992	1993	1994
Communications	2,457,037	2,277,067	2,077,567
General support	476,892	397,378	398,904
Ground support	1,257,246	1,292,643	1,405,456
[Deleted]	[Deleted]	[Deleted]	[Deleted]
Launch	1,165,953	1,117,301	1,309,873
Mapping	30,000	84,110	204,870
Meteorology	215,980	121,582	126,686
Navigation	501,110	510,951	461,025
Supporting RDT&E	1,467,983	1,080,787	730,750
[Deleted]	[Deleted]	[Deleted]	[Deleted]
Total	15,118,938	14,375,424	15,056,595

DOD SPACE FUNDING FISCAL YEAR 1994 PRESIDENT'S BUDGET

[In thousands of dollars]

	1992	1993	1994
AF	12,464,054	12,071,719	12,822,990
Navy	791,429	767,013	630,754
Army	628,079	529,727	701,975
Def agencies	1,235,376	1,006,965	900,876
Total	15,118,938	14,375,424	15,056,595
RDT&E	6,009,210	6,103,495	6,100,770
Proc	6,578,014	6,041,373	6,644,480
O&M	1,720,395	1,550,029	1,648,797
Milcon	212,532	67,049	105,911
Milpers	598,787	613,478	556,637
Total	15,118,938	14,375,424	15,056,595

Dr. **Schneiter**. Finally, I would note that a number of topics of this hearing are under review as part of Secretary Aspin's bottom-up review of strategic forces.

The results of this review will be used in the preparation of the fiscal year 1995 through 1999 budget. I understand that Secretary Aspin intends to inform Congress of the results of this review, including how they affect our fiscal year 1994 submission, in the July timeframe. He has also indicated willingness to support earlier needs Congress may have.

This concludes my opening remarks.

[The statement of Dr. Schneiter follows:]

DEPARTMENT OF DEFENSE
OPENING STATEMENT

BY

DR. GEORGE R. SCHNEITER

DIRECTOR, STRATEGIC AND SPACE SYSTEMS
OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION

BEFORE THE
DEFENSE SUBCOMMITTEE
HOUSE APPROPRIATIONS COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES

May 11, 1993

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PREPARED STATEMENT BY

DR. GEORGE R. SCHNEITER
DIRECTOR, STRATEGIC AND SPACE SYSTEMS
OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION

Good afternoon, and thank you for the opportunity to address this Committee on the Department of Defense Space Programs. Space forces already meet a wide range of requirements of critical importance to the Department. The global coverage, high readiness, rapid responsiveness, forward presence, and flexibility of space forces enable them to support military operations in peacetime, in crisis, and across the full spectrum of conflict. Recent experience has vividly demonstrated the importance of space forces for such varied contingencies as disaster relief, humanitarian assistance, peacekeeping, and, of course, major regional conflict. However, these recent employments of space forces also revealed shortcomings which must be addressed to meet the demands of the war fighters in future crises and conflicts.

I intend to limit my remarks to the space launch area and complement the information to be provided by Major General Hard. I will address specifically the process we are following to address our future space launch investments, the results of our review on the use of excess ballistic missile assets, and the status of the Space Nuclear Thermal Propulsion program.

As you are aware, the Department is engaged in a number of efforts to support the Secretary's Bottom-up Review of strategy, forces, and budget. The results of this review will be used in the preparation of the Fiscal Year 1995 through 1999 budget. One area of the Bottom-up Review is space launch acquisition. The purpose of the space launch review is to develop a set of alternative program strategies to satisfy DoD launch needs well into the twenty-first century. We are looking at three primary strategies:first, a life extension program for the current fleet; second, replacing the current fleet with a new system in the 2004 time frame; and third, introduction of advanced technology systems like single-stage-to-orbit.

The life extension considers the implications of maintaining the current fleet for the foreseeable future. Upgrades and improvements that have not previously been considered would be on the table. These include such things as pad replacements for Delta. The second strategy deals with replacement of the current fleet by either evolution from today's systems or a clean-sheet approach. Some concepts which we originally considered within the advanced- technology area that because of schedule, cost, and risk, could be candidates for replacement of current systems in the 2004 time frame. The third strategy, that of advanced-technology, would be the most expensive from a technology readiness and development perspective and also the latest in terms of initial operational capability. Each of these alternatives has a very different effect on the launch industrial base. Whatever direction the DoD takes in the future will need to address the over-capacity of the industry.

We are still in the process of finalizing the results of our review, so I can't provide any detail at this time. However, whatever decisions are made following this review, there will need to be significant investment in our launch systems. In the FY 1994 budget submission we have increased the resources applied to space launch infrastructure to correct the many years of under funding of this critical area.

I would next like to turn to the subject of the use of excess ballistic missile assets. As a result of START reductions, all Minuteman II and Poseidon missiles will be removed from the inventory. START provisions allow for the conversion of these missiles for space launch purposes with restrictions. To assess the use of these missiles to support DoD sub-orbital and orbital requirements, the Department undertook a review of this complex subject over a year ago. In the process of this review, we looked at a number of issues, such as security, technology transfer, economic impact to the commercial launch industry, and START compliance. Throughout the entire review process we had strong industry involvement. We determined that release of these missile outside the U. S. government would result in an unacceptable risk from a security standpoint, because Minuteman II first and second stages are identical to those of the Minuteman III operational force. The policy dealing with the use of these assets, which was recently approved by the Deputy Secretary, provides blanket approval for the use of these assets for U.S. government sub-orbital use, but requires formal review and approval by the Under Secretaries of Defense for Acquisition and Policy before they can be used for orbital purposes. We expect to forward this policy recommendation to the White House in the near future in accordance with the language in the Senate Report on the National Defense Authorization Act for Fiscal Year 1991 and the direction provided in the President's National Security Policy Directive on Space Launch Strategy, NSPD-4.

Finally, I want discuss the Department's recent decision relative to the Space Nuclear Thermal Propulsion (SNTP) program. This committee has been very supportive of this technology effort over the last two years. The FY 94 budget contains no funds to continue a development effort focused on testing a particle bed reactor. This decision was based on our current fiscal situation and the lack of a DoD application at this time. However, the technology is still of interest to DoD. Prior to formally terminating the activity, we proposed to transfer program sponsorship, as well as the authorized FY 1993 funds of $10 million, to the Department of Energy. On April 16, the Secretary of Energy informed us that she declines our offer. As a result, we have initiated termination of this program. We are still in the process of finalizing the amount of the FY 93 resources that will be required to complete the termination action.

This concludes my formal remarks. I would be happy to answer any questions you may have in these areas.

Mr. MURTHA. General Hard

SUMMARY STATMENT OF GENERAL HARD

General HARD. Mr. Chairman, I am also pleased to be here. I have submitted my statement for the record. I would like to make a couple of remarks before we proceed.

It is interesting; these are difficult times. We finally understand the true value of the space systems and the support they provide as was proven in Desert Storm. So in our terminology, demand is up, the right kind of demand, war fighters demand.

Unfortunately, that comes at the same time when we try to draw down the budget, which forces us into some difficult decisions. Thus we go through all the reviews, including the bottom-up review just referenced. Within all that, however, I think there are some things that need to be emphasized which we are trying to do within the Air Force.

We are homing in more on the actual service and support provided by the systems than the systems themselves. We want to understand how to exploit the systems that we have and the systems that we are building to eke out every last ounce of capability from them for better use and better support to the war fighter.

We will emphasize during the question and answer period the areas of MILSATCOM, tactical warning and attack assessment, navigational systems. These all have important issues associated with them. Underlying all is the issue of launch support for all these space systems. And I am looking forward to questions on discussion of those issues.

[The statement of General Hard follows:]

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON DEFENSE
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: DoD Space and Related Programs

STATEMENT OF: MAJOR GENERAL DONALD G. HARD
Director of Space Programs
Office of the Assistant Secretary of the Air Force for Acquisition

MAY 1993

NOT FOR PUBLICATION UNTIL RELEASED
BY THE COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES

Biography
United States Air Force

Secretary of the Air Force, Office of Public Affairs, Washington, D.C. 20330–1000

MAJOR GENERAL DONALD G. HARD

Major General Donald G. Hard is director of space and strategic defense initiative programs, Office of the Secretary of the Air Force for Acquisition, Washington, D.C. He provides program management direction for development and procurement of Air Force surveillance, communications, navigation and weather satellites, space launch vehicles, anti-satellite weapons and ground-based and airborne strategic radars, communications and command centers. He also represents the Air Force in the Strategic Defense Initiative program and is authorized to accept SDI program execution responsibilities on behalf of the Air Force.

General Hard was born Sept. 6, 1940, in Sunderland, Vt., where he graduated from high school in 1958. He earned a bachelor of science degree from the U.S. Naval Academy in 1962, studied graduate engineering at the University of Illinois from 1962 until 1963, and received a master's degree in business administration and management from California State University in 1978. He completed Air Command and Staff College in 1975, and the Industrial College of the Armed Forces in 1976. The general attended the Harvard University National and International Security program for Senior Executives, and is an MIT Seminar XXI fellow.

Upon graduation from the academy in June 1962, he was commissioned as a second lieutenant in the Air Force. In July 1963 General Hard was assigned to Headquarters Space Systems Division, Air Force Systems Command, Los Angeles Air Force Station, Calif., where he served as operations planning officer for the Dyna-Soar and Manned Orbiting Laboratory programs.

The general entered undergraduate pilot training at Reese Air Force Base, Texas, and received pilot wings in December 1967. After completing C-130 training at Sewart Air Force Base, Tenn., and Pope Air Force Base, N.C., he was assigned to the 776th Tactical Airlift Squadron at Ching Chuan Kang Air Base, Taiwan, with duty in Southeast Asia.

General Hard was assigned to the 6594th Test Group, Air Force Systems Command, Hickam Air Force Base, Hawaii, from November 1969 to June 1974. He then transferred to Sunnyvale Air Force Station, Calif., where he served as an orbital operations officer. In September 1975 he became chief of the Launch Operations Planning Branch, Office of Special Projects, Office of the Secretary of the Air Force, Los Angeles Air Force Station.

He transferred to Yokota Air Base, Japan, in June 1978 and served first as assistant operations officer with the 345th Tactical Airlift Squadron and, later, as deputy commander for operations with the 316th Tactical Airlift Group.

In October 1980 General Hard was assigned to the Office of Space Systems, Office of the Secretary of the Air Force, Headquarters U.S. Air Force, Washington, D.C., where he served as deputy director for policy and

(Current as of June 1991)

security, and deputy for space shuttle policy. He served as director of operations support integration for the deputy commander for space operations, Space Division headquarters, from July 1982 to January 1983, when he became director of plans, Space Division.

The general commanded the 6594th Test Group at Hickam from May 1984 to May 1985. He then returned to Sunnyvale as commander of the Air Force Satellite Control Facility.

From July 1986 to February 1987 General Hard was vice director of the Secretary of the Air Force Office of Special Projects, Los Angeles Air Force Station. He then served as deputy commander for launch and control systems, Space Division headquarters. In November 1987 the general was assigned as director of space systems, Office of the Secretary of the Air Force, Washington, D.C. In January 1989 he became deputy director of operations, and in September 1989 he became deputy director of plans, Office of the Deputy Chief of Staff, Plans and Operations, Air Force headquarters. He assumed his present position in March 1990.

The general is a command pilot with more than 4,000 flying hours. His military awards and decorations include the Defense Superior Service Medal, Legion of Merit, Meritorious Service Medal with four oak leaf clusters, Air Medal with three oak leaf clusters, Joint Service Commendation Medal and Air Force Commendation Medal. He also wears the Master Space Badge.

He was promoted to major general Feb. 1, 1991, with same date of rank.

General Hard is married to the former June O. Oliver of Sacramento, Calif. They have three daughters: Jennifer, Amy and Julie.

Mr. Chairman and Members of the Committee:

Good afternoon, and thank you for the opportunity to address the Committee on the Air Force's proposed space programs as presented in the FY 94 budget. The Air Force supplies space support and services for the Defense Department. As we look to a future of primarily U.S. based, smaller, highly capable, flexible, and mobile fighting forces, space systems will provide the global situational awareness and connectivity to understand the battlefield even before our other forces arrive. We can monitor activities around the world and command and control our forces to ensure the most effective application of power. This provides support to both the initial deployment and sustainment of terrestrial forces deployed to areas without an indigenous infrastructure for supporting military operations.

I prefer to emphasize the products and services provided by our space systems to the National Command Authorities and the combatant commanders and, may I add, to the Nation as a whole. Our budget and programs are often defined by the equipment we acquire; so, I am forced to describe our FY 94 budget request in those terms. However, I find that by focusing as much as possible on the support and services provided, we are better able to define comprehensive approaches to satisfying requirements. By eliminating artificial programmatic and organizational boundaries , we can more clearly see the scope of those efforts. So, today I will highlight the Air Force's proposed programs within the support areas of military satellite communications (MILSATCOM), tactical warning and attack assessment (TW/AA), navigation, and earth observation. In addition, I will highlight a critical secondary supporting area of spacelift—without which none of the space services can be maintained.

I must qualify some of what I will say. Certain areas - - especially MILSATCOM, TW/AA and space launch - - are topics in the DoD's on going Bottom-up Review. This review will result in guidance that could change some of the concepts I will describe.

Our priorities in each of these areas is first to sustain the operational space systems which provide the support critical to our users. Second, we will continue ongoing deployments of new systems, ensuring they fit into our overall Defense strategy, on a prudent schedule, meeting final operational capabilities. Last, we will pursue research and development of space systems to satisfy new mission needs where the investment will have significant payoff, where the programs have been shown to be absolutely essential to counter new threats, and to leverage the declining force structure.

In MILSATCOM we have already started bridging artificial boundaries. We consolidated 13 separately defined Military Satellite Communications efforts into a single, joint program office that will give customers throughout the Department of Defense "one stop shopping." We did this to ensure that the Air Force could respond effectively to the changing customer base and mission needs of the armed forces. Ultimately, this will enable us to focus on systems engineering while working in an integrated rather than "stovepipe" environment.

The Defense Satellite Communications System (DSCS) is a mature system which the Defense Department depends upon for secure voice and high data rate communications. We will continue to replace spacecraft as on orbit assets reach the end of their useful mission life. We plan to launch a satellite in 1993 and in 1994 to maintain the required constellation. We will participate in exploration of opportunities for international cooperation with the United Kingdom and France in our next generation of communications spacecraft. We believe that a joint program offers opportunities for investment cost savings and improved interoperability with our allies.

Milstar continues toward its first launch in late 1993, fully compliant with our agreements on restructuring the program. In fact, the program as approved by the 1992 October Defense Acquisition Board (DAB) is even leaner than the one discussed in the restructure. The DAB program features just four satellites to provide better communications support in the mid latitudes and substitutes a Milstar-like system that is a less expensive polar adjunct for coverage over the North Pole. Our final recommendations on the polar adjunct will be presented to the DAB in 1994. The Air Force has deferred its requirements for production of bomber and launch control center based Milstar terminals, further decreasing the costs of the program. We intend to continue to pursue technologies that can bring down the cost of both the space and terminal segments of Milstar while providing improved service and support. In addition, we have reduced the schedule risk for satellite 4, the first Medium Data Rate (MDR) capable satellite, by eliminating concurrent development and fabrication. This has delayed the launch of satellite 4 by approximately one year, but has allowed us to reduce our FY 94 RDT&E request by $180 million.

Similarly, in the area of TW/AA, we intend to consolidate our two early warning program offices into a single space based tactical warning and attack assessment program office. This will help us ensure a smooth and efficient transition from an era dominated by the Defense Support Program (DSP) towards the capabilities of the Follow-on Early Warning System (FEWS). We are progressing toward contract awards for the DSP spacecraft and sensor in the coming months for three satellites (numbers 23 through 25). In the FY 93 bills, Congress provided multi-year procurement authority for this buy, which will save $237 million, or 16 per cent, over an annual procurement method. At the same time, to ensure maximum flexibility, we have structured these contracts to minimize termination liabilities. This will allow us to cost-effectively delete a satellite if future conditions indicate that one of these satellites is not required. At this point, however, these three satellites are crucial to the successful transition from today's DSP support to the future advanced capabilities of the FEWS. Specifically, in FY 94 we continue advance procurement and begin procurement of the sensor for satellite 23. Also, during FY 94 we expect to launch another DSP on a Titan IV booster with an Inertial Upper Stage.

FEWS -- sometimes referred to as the improved, space based, tactical warning and attack assessment system -- received strong support from the DAB and was fully funded in our future years' defense program. The program will provide us with a needed upgrade in our ability to detect the launch of long and short range ballistic missiles for use by the National Command Authorities as well as by our theater forces. Increased sensitivity to detect dimmer theater ballistic missiles, earlier warning time, transmission of warning information directly to theater users, and improved coverage of the world will provide the space services we need as the ballistic missile threat continues to proliferate Mr Chairman and Members of the Committee: through numerous countries. We are continuing to work with the Army and Navy to best structure the flow of data directly from the FEWS satellites to the theater forces who need it. We are nearing the halfway point of a two-year Demonstration/Validation phase, and will met a DAB Program Review in September to review the progress of critical technologies and manufacturing processes. With the successful completion of this review, we'll be getting ready to select the single contractor in the summer of 1994 to finish the design and start building satellites.

The Cheyenne Mountain Upgrade (CMU) program to improve the capabilities of the integrated TW/AA complex continues. The CMU program management difficulties of the past three years are now behind us. Results from Developmental Test and Evaluation of CMU's individual systems in Colorado Springs predict success in the upcoming Operational Test and Evaluation beginning this summer. Still, from now until the end of 1995, CMU will be in what has traditionally been the most challenging phase of any program--integrated testing.

In navigation, our Global Positioning System (GPS) is progressing towards its initial operational capability later this year and towards a final operational capability of 24 operational satellites in 1995. High reliability, high precision, all weather navigation and time will soon be available 24 hours a day on a world wide basis to users with hand held terminals costing less than $1300. The Air Force considered procuring two optional GPS Block IIR satellites because of their low cost, if bought as part of the four multi-year satellites. But because the optional satellites are not required for purchase until FY 97, the Air Force decided to concentrate procurement resources on the integration of GPS receivers on aircraft. The Air Force, through Project 2000, plans to install GPS receivers by the year 2000 in all existing aircraft that are projected to remain in service into the next century. I can assure you that the early integration of GPS on our aircraft is getting attention at the highest levels in the Air Force. The FY 94 budget proposes an additional $36 million to support this acceleration. The Air Force also understands the value of GPS to civil users, and we want to ensure these users fully benefit from GPS - - while preserving the military's unique requirements. Because of this, the Air Force is actively participating in a joint DoD/DoT task force with the goal of obtaining as much civil value from GPS as possible.

In the area of earth observation, we anticipate a launch of another Defense Meteorological Satellite Program (DMSP) satellite this year as required to continue to provide the support we are so accustomed to. We are continuing development of a small tactical terminal that will provide meteorological data directly to the Air Force and Army mission planners who can best exploit the data. Current technology will allow us to miniaturize this capability from 26,000 pound units of the Desert Storm era to 700 pound systems to be fielded in 1995. We are enhancing an already close relationship with the Department of Commerce weather satellite program to explore potential reductions to the overall cost to the government in providing necessary civil and military meteorological data. Both existing systems, DMSP and the National Oceanographic and Atmospheric Administration's Polar-orbiting Operational Environmental Satellite (POES) program are proposing block changes in the post-2000 time frame. Further integration of the programs may be possible after a joint agency analysis of mission requirements and careful scrutiny of existing system configurations.

Lastly, essential to all of our space programs, is the launch and ground support element. In FY 94, the Air Force will provide the services and ground support infrastructure to launch, establish and maintain the necessary constellations. In FY 94, we will launch three Delta II boosters to continue deployment of GPS operational satellites. We will also launch an Atlas II to support the DSCS constellation, and an Atlas E for DMSP. Six Titan IV launches are scheduled in FY 94, including the first Milstar mission and a DSP mission. For Titan II, we plan to launch the SDIO's Clementine mission, and we'll have the capability to launch replacement satellites for DMSP and NOAA's Advanced TIROS program, if required. The Pegasus program will support the launch of three Air Force Space Test Program missions in FY 94. Some modifications will be required to maintain a viable spacelift capability for the remainder of the decade. The FY 94 budget request also contains significant funding to repair, upgrade, and improve the nation's space launch infrastructure. We are continuing efforts to repair the critical elements of the physical plant at both the Eastern and Western space launch bases. We are proceeding with projects to replace much of the aging range equipment on both coasts with modern, more reliable, and less labor-intensive equipment; the Range Standardization and Automation project is the largest of these. The currently operational space boosters are being upgraded with improved safety systems to meet current standards, including better protection of life and property. Launch support facilities at the Eastern Range are being upgraded with new equipment and improved protection against lightning strikes.

We anticipate Titan IV, which has the highest payload lift capability in our space launch inventory, will continue to serve our needs through the turn of the century and beyond. This is a significantly different role for Titan IV than we envisioned when we began the program as a mere complement to the space shuttle in 1985. At that time, we planned only 10 Titan IV launches through 1993. We now have 41 Titan IV vehicles on contract . The substantial role Titan IV plays in meeting our requirements for spacelift requires us to make prudent investments in upgraded facilities and equipment to ensure cost-effective access to space. The solid rocket motor upgrade (SRMU) program, one such investment, has recovered from its early technical problems and has demonstrated three successful test firings to date. There are two additional tests in the SRMU development program planned, and we expect to complete those by August of this year. We have taken aggressive actions to resolve the business disputes related to the SRMU subcontract as Congress directed in the FY 93 Appropriations Act for the Department of Defense. In FY 94, we expect to provide funding for required upgrades to booster safety systems and launch infrastructure which will help us posture for the long future we anticipate for Titan. We are also realigning production schedules to reflect changes in satellite launch requirements while maintaining a sound industrial capability to sustain product quality and highly reliable launches. During the next several months, we will complete a detailed evaluation of the Titan IV program and its requirements to establish a firm baseline against which we can make future budget and mission effectiveness determinations.

Competition for our newest spacelift capability, the Medium Launch Vehicle (MLV) III, was concluded in April with the selection of the Delta II launch system manufactured by the McDonnell Douglas Corporation, in Huntington Beach, California. The MLV III competition was conducted to provide launches for 25 GPS IIR satellites. There are 11 launches on the priced options for other satellites as required. Advance procurement of long-lead items is planned for FY 93, with procurement of two Delta II spacelift vehicles in FY 94. The first launch of the GPS IIR is scheduled for FY 96.

For several years, the Air Force has supported the need for a new and more reliable system to meet the longer-term national security, civil, and commercial spacelift needs. Several efforts have been initiated in the past; e.g. the Advanced Launch System program which was based on very high launch rates and provided very heavy lift capability which would have supported a massive SDI architecture deployment. When launch rates dropped and SDI deployment choices changed, we transformed the Advanced Launch System program into the National Launch System program. This program also envisioned broad requirements and was therefore expensive. In addition, it shared management between the National Aeronautics and Space Administration (NASA) and the Air Force which proved unwieldy.

As I noted earlier, future spacelift is the subject of an ongoing OSD Bottom-Up Review. The Air Force also has initiated a review of needs and created a process to gather the Nation's spacelift requirements. Our focus will be on un-manned requirements below 50,000 pounds to low earth orbit (LEO). We see benefit in first capturing the MLV (approximately 20,000 pounds to LEO) capability and growing that to meet the full range of un-manned spacelift needs. There are several launch concepts now in the marketplace, from improvements to existing launch vehicles all the way to Single Stage Rocket Technology (SSRT) and the National AeroSpace Plane (NASP), that need to be considered in open competition. By mid-FY 94, if a decision is made to proceed with a new vehicle development, the Air Force will be prepared to solicit approximately five concept study contracts. This solicitation will create a healthy competitive environment allowing all launch industry concepts to be fairly compared against the Nation's requirements. Associated with each concept will be additional funds to demonstrate concept feasibility and/or reduced risk for the government. These concept studies, which are expected to last about a year, would then form the basis to down select to one or two concepts prior to entering the demonstration/validation phase. At that time, costs for each concept would be developed and affordability decisions would be made as appropriate.

We believe this approach is sound and would ensure the Nation receives an affordable, operable, and competitive space launch system in the next century. We look forward to working with the Congress on space launch matters and are happy to receive your viewpoints on the proper future course for the Nation in this endeavor.

In summary, we continue to challenge ourselves and our customers to consider less costly alternatives to ongoing programs and products. We feel this is an important element to ensure the requirements we base our programs on represent the essential needs of our combat forces.

Mr. MURTHA. General Adams.

SUMMARY STATEMENT OF GENERAL ADAMS

General ADAMS. Mr. Chairman and Members, I am pleased to offer a statement for the record.

The Army sees space as a force enhancer or a combat multiplier for foot soldiers, the tanker, helicopter pilots and other members of the combined arms team.

We believe that Desert Storm, Provide Hope, and recent disaster relief efforts and any number of other operations show conclusively that space and space products are absolutely critical to ground operations, across the entire operational spectrum that Dr. Schneiter referenced.

To ensure that the unique requirements of land operations are articulated, understood, and met, we have the Army Space Command as a component of US Space Commands that provides the Army perspective in planning for DOD space systems support to land forces.

The Army is committed to assured access to space products for the ground commander in support of the war-fighting CINCS; and ARSPACE (Army Space Command), we believe, is a key in that process.

I appreciate having the opportunity to join my colleagues in discussing DOD space-related programs and will be pleased to respond to your questions.

[The statement of General Adams follows:]

RECORD VERSION

STATEMENT OF

BRIGADIER GENERAL RONALD E. ADAMS
DIRECTOR OF REQUIREMENTS, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
HEADQUARTERS, DEPARTMENT OF THE ARMY

BEFORE THE
SUBCOMMITTEE ON DEFENSE
COMMITTEE ON APPROPRIATIONS

IN CONNECTION WITH
SPACE AND RELATED PROGRAMS

UNITED STATES HOUSE OF REPRESENTATIVES
FIRST SESSION, 103RD CONGRESS
11 MAY 1993

NOT FOR PUBLICATION
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COMMITTEE

RONALD E. ADAMS
BRIGADIER GENERAL, UNITED STATES ARMY

Brigadier General Ron Adams assumed his current duties as Director of Requirements, Office of the Deputy Chief of Staff for Operations and Plans, the Army Staff, Washington, D.C. in September 1991. On 8 June 1992, the Secretary of Defense announced that the President had nominated Adams for promotion to Major General.

After an initial assignment as a platoon leader with the 11th Armored Cavalry Regiment, Adams served two tours of combat service with cavalry squadrons in Vietnam; commanded a battalion in Korea and a brigade in Hawaii, and participated in the Persian Gulf War (Desert Shield/Storm) as Assistant Division Commander of the 101st Airborne Division (Air Assault). In earlier staff assignments, Adams served as Secretary of the General Staff of the 9th Infantry Division; Military Assistant and Aide to the Secretary of the Army; Executive Assistant to the Deputy Commander in Chief, and Chief of Staff of U.S. Pacific Command; and as a Chief of Staff of the Army Strategic Fellow at the Army War College.

General Adams earned a masters degree in organizational behavior at The Pennsylvania State University, completed the advanced management program at Carnegie-Mellon University, and graduated from the Army Command and General Staff College and The National War College.

STATEMENT OF BRIGADIER GENERAL RONALD E. ADAMS
DIRECTOR OF REQUIREMENTS, OFFICE OF THE DEPUTY CHIEF
OF STAFF FOR OPERATIONS AND PLANS
HEADQUARTERS, DEPARTMENT OF THE ARMY
IN CONNECTION WITH SPACE AND RELATED PROGRAMS
DEFENSE SUBCOMMITTEE OF THE HOUSE APPROPRIATIONS
COMMITTEE
11 MAY 1993

Mr. Chairman, and Members of the Subcommittee:

I appreciate the opportunity today to appear before the subcommittee as the U.S. Army representative. The message that I want to emphasize is that space and the use of space products is absolutely critical to the success of ground warfighting for all land operations, including combat, peacekeeping, and disaster relief. The Army is the largest user of products from space and only the Army, with our unique "muddy boots" perspective can properly determine and articulate our present requirements and future needs for excellent products from space. The Army feels so strongly about this need that space force enhancement has become a doctrinal imperative. We are integrating the use of space into all aspects of our activities where they apply.

As we continue to move from a Forward Deployed to a Power Projection Army, we have seen the value, indeed the necessity, of space as a force enhancement or combat multiplier for land operations. This was amply demonstrated in both Operation Desert Storm and Operation Restore Hope, reinforcing the value of space in providing essential capabilities such as communications, weather and terrain analysis, position location, mapping capabilities and early warning, directly to soldiers on the ground.

Information is power! What we in the Army are primarily concerned with is ensuring that the soldier in the foxhole and the tank commander going into battle have the best support and the most current knowledge that can be provided through the use of space assets and space products. For us, this is the payoff that space provides. From an Army perspective, you must get the benefit of space products to the theater CINCs and to American ground forces. If you do not, then the effect is "space for space's sake."

The primary means of providing our soldiers assured access to space is through the U.S. Army Space Command which serves as a component command to the unified U.S. Space Command. As part of its twofold operational mission, U.S. Army Space Command provides network control for the Defense Satellite Communications System in support of DISA and CINCSPACE. Secondly, and more importantly, the U.S. Army Space Command is the ground member of the joint space team triad, including Naval and Air Force Space Commands, headed by the CINCSPACE. The Army Space Command works to insure the unique requirements of land operations are articulated, understood and met. The U.S. Army Space Command is the bridge between space and the foxhole through its demonstration program. This program demonstrates and integrates, both vertically and horizontally, off the shelf, leading edge space capabilities in both training exercise and deployment situations of corps, divisions and brigades.

In summary, what the Army is doing through Army Space Command is to take advantage of Department of Defense's considerable investment in space systems to support American soldiers and Marines in land operations. Without being primarily involved in the design, launch, or operations of space systems, we are convinced that, because of the criticality of space for land operations, having a strong, meaningful Army component as a part of the joint space team makes good sense. It makes good sense because we get the best payoff for our space dollar, and, most importantly, it makes good sense in the advantages it gives our young soldiers on the modern battlefield. These technologies translate into dollars well spent and lives saved, which could be lost for wont of our ability to use these systems.

We look at this as a high leverage operation analogous to Tactical Exploitation of National Capabilities Program, also called TENCAP, which has worked to benefit soldiers on the battlefield by leveraging off of existing national space capabilities. I believe that the highest payoff for all warfighters is realized when components of all services are directly involved as meaningful participants of the joint team.

This concludes my remarks. I thank you for the opportunity to appear before you today.

Mr. MURTHA. Admiral Jordan.

SUMMARY STATEMENT OF ADMIRAL JORDAN

Admiral JORDAN. Mr. Chairman, I appreciate the opportunity to be here as the Navy/Marine Corps representative. We are strong tactical users of space from surveillance through the C4I capabilities.

Space assets are a key to the expanding capabilities of the Navy and Marine Corps expeditionary forces, and we strongly support a strong joint space systems capability.

I am ready to help answer the questions this afternoon.

[The statement of Admiral Jordan follows:]

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STATEMENT OF

REAR ADMIRAL WESLEY E. JORDAN, JR.

DEPUTY DIRECTOR, SPACE AND ELECTRONIC WARFARE
OFFICE OF THE CHIEF OF NAVAL OPERATIONS

BEFORE THE

DEFENSE SUBCOMMITTEE OF THE

HOUSE APPROPRIATIONS COMMITTEE

11 MAY 1993

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I APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE YOU AS THE NAVY AND MARINE CORPS REPRESENTATIVE.

THE WORLD HAS CHANGED DRAMATICALLY IN THE LAST THREE YEARS AND AMERICA'S NATIONAL SECURITY POLICY HAS ALSO CHANGED. THE NATIONAL STRATEGY HAS SHIFTED FROM A FOCUS ON A GLOBAL THREAT TO A FOCUS ON REGIONAL CHALLENGES AND OPPORTUNITIES. WHILE THE PROSPECT OF GLOBAL WAR HAS RECEDED, WE ARE IN A PERIOD OF ENORMOUS UNCERTAINTY IN REGIONS CRITICAL TO OUR NATIONAL INTERESTS. OUR JOINT FORCES CAN HELP TO SHAPE THE FUTURE IN WAYS FAVORABLE TO OUR INTERESTS BY HELPING TO PRESERVE THE STRATEGIC POSITION WE WON WITH THE END OF THE COLD WAR.

EXPEDITIONARY NAVY AND MARINE CORPS FORCES ARE HELD RESPONSIBLE FOR A WIDE VARIETY OF MISSIONS IN SUPPORT OF THIS STRATEGY. WE HAVE THE PROVEN ABILITY TO DOMINATE AT SEA, TO PROJECT INFLUENCE FAR INLAND AND TO INTERVENE ASHORE TO PROTECT U.S. INTERESTS. THIS INFLUENCE DEPENDS ON THE ABILITY TO EXTEND THE BATTLE SPACE AWAY FROM OUR SEABORNE FORCES, WELL OVER THE HORIZON. WE SEEK TO CONTROL THAT BATTLE SPACE WITH SUPERIOR SURVEILLANCE AND THE ABILITY TO SHOOT FIRST, WITH PRECISION, BEYOND THE RANGE OF OUR ADVERSARY'S WEAPONS.

OUR WARFIGHTING DOCTRINE TO ACHIEVE THESE GOALS IS BASED ON A COMBINED ARMS APPROACH MELDING FORWARD DEPLOYED SSN'S, INTEGRATED FIXED WING MARITIME SURVEILLANCE, LONG RANGE CARRIER AIRCRAFT, TOMAHAWK CRUISE MISSILES FROM SHIPS AND SUBMARINES, AND AN OVER-THE-HORIZON MARINE ASSAULT CAPABILITY -- ALONG WITH FORCES FROM THE OTHER SERVICES -- INTO A WARFIGHTING CAPABILITY GREATLY EXCEEDING THE SUM OF THESE PARTS. THE FORCE ENHANCEMENT PROVIDED BY SPACE BASED ASSETS IS A CENTRAL ELEMENT IN THIS JOINT CAPABILITIES MIX, AND SPACE SYSTEMS ARE GROWING IN IMPORTANCE.

NAVAL OPERATIONS IN CONTIGUOUS WATERS PRESENT INCREASED COMPLEXITY WHEN COMPARED TO NAVAL WARFARE IN THE OPEN OCEAN. THEY ARE CHARACTERIZED BY MORE SOPHISTICATED RULES OF ENGAGEMENT, RAPIDLY CHANGING PRIORITIES AND A COMPLEX MIXING OF DETERRENCE WITH THE APPLICATION OF FORCE. SPACE SURVEILLANCE AND TARGETING AFFORD THE SECURE VANTAGE POINT WITH WHICH A COMMANDER CAN CARRY OUT HIS MISSION WITH PRECISION, TIMING, AND THE SITUATIONAL AWARENESS THAT THESE MORE SOPHISTICATED OPERATIONS DEMAND. THE COMMANDER CAN BUILD THE OVERALL INFORMATION PICTURE FROM THE EARLIEST PHASES OF THE CRISIS. HE CAN DISCERN THE DISPOSITION AND PROBABLE INTENTIONS OF HIS ENEMY USING GREATER AMOUNTS OF INTEGRATED INFORMATION AS HE POSITIONS FRIENDLY FORCES TO THE BEST ADVANTAGE. IN ADDITION SATELLITE COMMUNICATIONS ARE INCREASINGLY PROVIDING THE CRITICAL CONNECTIVITY TO EXCHANGE INFORMATION AND SYNCHRONIZE FORCE EFFORTS.

ONE OF THE TOUGHEST FEATURES OF REGIONAL WARFARE IS THE DIFFICULTY IN PREDICTING THE EXACT NATURE OF THE PROBLEM OUR

FORCES WILL ENCOUNTER -- WHO, WHERE, AND HOW WE WILL HAVE TO FIGHT. THEREFORE, OUR SPACE CAPABILITIES MUST HAVE THE SAME DEGREE OF FLEXIBILITY AS OUR JOINT SEABORNE FORCES -- THE ABILITY TO REDEPLOY AS NECESSARY AND TO REACT IN REAL TIME TO THE PROBLEM AT HAND.

WITH THESE FACTORS IN MIND, WE ARE PLACING INCREASED EMPHASIS IN ALL AREAS OF SPACE TECHNOLOGY AND WE ARE MAKING IMPORTANT GAINS. ONE OF THE REASONS FOR OUR INCREASING SUCCESS IS THE CONTRIBUTION OF THE NAVAL SPACE COMMAND. IT IS OUR LINK BETWEEN SPACE AND NAVAL OPERATIONS -- THE CONDUIT IF YOU WILL -- FOR INTEGRATING NAVAL/MARINE CORPS WARFIGHTING REQUIREMENTS INTO AN OVERALL SPACE INVESTMENT STRATEGY. AS THE KEY SPACE REPRESENTATIVE TO THE FLEET AND FLEET MARINE FORCES, THIS COMMAND BRIDGES THE GAP BETWEEN THE R&D COMMUNITY AND THE WARFIGHTER.

AN ADDITIONAL CONTRIBUTOR IS THE NAVAL RESEARCH LABORATORY (NRL), OUR PRINCIPLE RESEARCH ACTIVITY FOR DEVELOPING SERVICE UNIQUE SOLUTIONS FROM SPACE SCIENCE AND TECHNOLOGY. THIS ORGANIZATION HAS BUILT AND LAUNCHED OVER 80 SATELLITES, AND DEVELOPED THE GLOBAL POSITIONING SYSTEM (GPS) CONCEPT AND THE FIRST GPS PROTOTYPE SATELLITE.

THE NAVY AND MARINE CORPS CLEARLY RECOGNIZE THE IMPORTANCE OF SPACE. IT NOT ONLY ENHANCES OUR NAVAL POWER, BUT ALSO IT TIES

US MORE CLOSELY TO THE OTHER SERVICES AND GREATLY IMPROVES OUR ABILITY TO FIGHT JOINTLY.

WE WERE GRANTED A GLIMPSE OF THE FUTURE IN DESERT STORM. THIS WAS CONFIRMED IN OPERATION RESTORE HOPE IN SOMALIA AND IS NOW BEING RECONFIRMED IN THE ADRIATIC. THE VANTAGE FROM SPACE PROVIDES THE MEDIUM FOR SURVIVABLE SURVEILLANCE AND TARGETING, ROBUST COMMUNICATIONS, IMPROVED NAVIGATION, AND REAL TIME ENVIRONMENTAL MONITORING SYSTEMS. SPACE SYSTEMS WILL CONTINUE TO PROVIDE A REVOLUTIONARY WARFARE ADVANTAGE OVER THE INCREASINGLY SOPHISTICATED CAPABILITIES AVAILABLE ON THE GLOBAL MARKET.

THIS CONCLUDES MY PREPARED STATEMENT.

THANK YOU.

[CLERK'S NOTE.—Statements of additional departmental witnesses are printed at the end of this hearing. See page 430.]

MANAGEMENT OF SPACE PROGRAMS

Mr. MURTHA. Thank you very much, gentlemen.

One of the things we have tried to do in this Committee is to make sure we have a coordinated effort for all these programs.

As we understand it, the appropriation for space, as a whole, is about $15 billion. Do you agree with that figure?

Dr. SCHNEITER. Yes.

Mr. MURTHA. We have all the services represented here. Would you tell us how you coordinate these activities, Dr. Schneiter?

Are we getting the maximum without duplication of services? Obviously, we are trying to have less duplication, more coordination, and of course a cost-effective way of running all these programs.

I know that each one of you has a different role, but one of the problems of the past in any weapon system has been a tremendous expense of trying to adapt a specific system to the individual service.

Could you give us an idea of how the space programs are coordinated in the Defense Department and exactly what you are doing to consolidate or coordinate the overall effort?

Dr. SCHNEITER. Let me break that into two parts. With regard to the space launch activities, for which I have responsibility, we do this basically through such reviews as we are now undergoing within the Department in the Bottom-Up Review, where we look at all the requirements and determine the most effective way to do that.

Mr. MURTHA. Your title says "Director of Strategic and Space Systems." Are you saying that your specific responsibility is not the coordination of the DOD space effort, it is just for launch activities?

Dr. SCHNEITER. That is the principal area, yes.

The space systems, the satellites themselves, fall for the most part under the purview of the Assistant Secretary of Defense for Command, Control, Communications and Intelligence. I have some satellite programs under my purview, but they are relatively few.

Mr. MURTHA. You were talking about hardware rather than management—I am trying to get a handle on what the lines of communications are between the services and who directs a space effort, if there is such a thing, in the Defense Department.

What are your responsibilities? I guess that is the key question.

Dr. SCHNEITER. My particular responsibilities are oversight of programs in the following areas: strategic systems, which include bombers, cruise missiles, et cetera; intercontinental ballistic missiles, ICBMs, SLBMs; space-launch vehicles, such as Titan; the new space lifter, which is in the budget; defensive systems, which include some space systems associated with the Strategic Defense Initiative; and certain arms control oversight responsibilities. Those are my particular areas of oversight.

Mr. MURTHA. So does that include all the services?

Dr. **Schneiter**. That includes the Services with regard to those program areas. That includes some Army and some Navy, but mostly Air Force program activities.

Mr. **Murtha**. So what are the space agencies or areas that you are not responsible for?

Dr. **Schneiter**. Most of the satellite programs such as communication satellites and surveillance satellites, fall under the purview of the ASD(C3I).

Mr. **Murtha**. We heard from them this morning.

So this is the other part of the space program that you are talking about?

Dr. **Schneiter**. The part I am responsible for. However, my colleagues are responsible for satellite systems as well.

Mr. **Murtha**. That is not in your jurisdiction?

Dr. **Schneiter**. Not in mine, no, sir.

Mr. **Murtha**. Even though it is a $15 billion budget, we are really talking about separate entities who submit a budget. Let's go through the budget process.

Who do they submit their budget to, you or Dr. Perry?

What is the review they go through when they are trying to get their money for their particular program?

Dr. **Schneiter**. They submit their budgets to DOD. It comes in through our Comptroller.

Mr. **Murtha**. Somebody must have oversight over the programs. I am just trying to see what the jurisdiction or the lines of communication are within the Department to coordinate this $15 billion.

Am I talking to entirely separate agencies with no centralized review?

Dr. **Schneiter**. The space programs come together within the Office of the Secretary of Defense. The acquisition programs come together under the Under Secretary of Defense for Acquisition, Mr. Deutch.

He has all responsibility for the acquisition oversight of all of those programs.

Mr. **Murtha**. I guess I am confused here. So Mr. Deutch has the acquisition part of it; you have the operational part of it?

Dr. **Schneiter**. No, sir. I work for Mr. Deutch. My responsibilities are in acquisition, in the areas that I mentioned earlier.

Mr. **Murtha**. Is there anybody responsible outside of the satellite C3I area? Is there anybody responsible for all the space activities that coordinate these diverse efforts?

Dr. **Schneiter**. Well, I think in terms of acquisition activities, that is Mr. Deutch. He has under his purview the C3I acquisition programs as well.

Mr. **Murtha**. What I am trying to get to here is, we see so much redundancy and lack of coordination in many programs. This is probably the first time we have tried to get all the space people together at the same time to see what direction we are going. And I am trying to figure out who in the Defense Department really coordinates this overall space program for all the various facets of space.

Dr. **Schneiter**. I think for the satellite systems, this principally comes together under the Assistant Secretary of Defense for C3I.

For the launch activities, that comes together under my office.

Mr. Murtha. So you are talking about the operational end of it then?

Dr. Schneiter. No, sir. Acquisition.

Mr. Murtha. Acquisition. All right. So you coordinate, then, all the acquisition of all the programs from all the different departments?

Dr. Schneiter. In the areas of my purview, yes, sir.

Mr. Murtha. Mr. Dicks.

Mr. Dicks. Thank you, Mr. Chairman.

Mr. Livingston. Would the gentleman yield?

Mr. Dicks. Sure.

Mr. Livingston. Who makes the value judgments that, operationally, the various systems between the services are not redundant, overlapping, or actually missing certain ingredients?

Dr. Schneiter. I think that, principally, is done in the Joint Staff. They have the principal responsibility for operational issues.

Mr. Livingston. For example, the Marines in the field, on the ground, would they use their own oversight systems separate and apart from the ones from the Army? Or would you use the same ones?

Admiral Jordan. In order to assure joint interoperability. A lot of the systems are directed for all service use. That direction comes from J–6, the C4I part of the Joint Chiefs; and we all acquire the same system to ensure that we are all interoperable.

In the indication of satellite systems, for instance, there is a Joint Requirements Oversight Committee (JROC) at the service Vice Chief of Staff level. And when there is a major acquisition or major system such as a major satellite system, then that joint requirement is reviewed at that level from an acquisition point of view by the Defense Acquisition Board, which is in a separate channel for the acquisition aspect of it.

From a joint requirements' point of view, that is looked at by the JROC, which reviews those types of capabilities.

Mr. Livingston. Would there be one person for the JROC or the Joint Chiefs of Staff that would look at it or multiple people under multiple organizations or offices?

General Adams. The vice chairman and the vice Chiefs of Staff of each of the services sit on the JROC. It has the mission of validating the key performance parameters for the systems.

As the Admiral mentioned, late last fall, DOD published a document, DOD directive 4630, saying that all kinds of systems we are talking about are joint systems, so they come through the JROC process.

What happens, sir, is a requirement could be generated either by a tactical war fighter, a CINC; and he could submit that directly to the joint staff in the form of a mission needs statement or come through the services.

For example, GPS—the devices used during Desert Shield, Desert Storm—there was a need recognized by field commanders. They put a requirement on the system; it came up through the services and was validated by the JROC.

In the case of the Marines and the Navy, there was coordination between the Department of the Navy and the Department of the Army for the kind of systems they wanted. It went to the JROC, it was validated; and it was approved by the Defense Acquisition Board.

So there is a lot of crosswalk in the requirements process.

Mr. **Murtha**. Let me go back. SDI, with a lot less money, has a central command function. As I understand it, CINCSPACE thinks they ought to have some of this responsibility. I am trying to pin down who has this responsibility for a coordinated effort in space and whether that is something we should address.

If Under Secretary Deutch or Deputy Secretary Perry is in charge, they are running a lot of other things. And I wonder, do we need somebody to coordinate all these efforts?

I guess that is what I am asking. Because it seems there is a lot of confusion about a coordinated effort when there is $15 billion being spent. For instance, when I had a problem with the medical services, 12 or $13 billion, we had the Assistant Secretary of Defense for Health Affairs up here. This program is even larger. And we don't have anybody in charge. It is just one of the responsibilities of the deputy secretary.

And is that a problem at all? Would any of you care to comment on whether that is a problem?

Dr. **Schneiter**. With regard to operational matters, I think the Commander in Chief of the U.S. Space Command is the place where all the operational needs come together and are looked at. He then reports that to the Joint Chiefs of Staff as well.

Once a requirement for a new system comes into being through the process that was just described, then it comes to the Defense Acquisition Board. And the acquisition of any hardware that is required is the responsibility of Mr. Deutch.

In the course of examining a system to determine if we should indeed proceed with it, he looks at alternative means of meeting the needs that are set forth. And that is a coordination process in itself.

Mr. **Murtha**. But there is really no individual except either Secretary Perry or Secretary Deutch or Secretary Aspin who has responsibility for this whole coordinated effort. I guess that is what you are saying.

I know we had a witness here years ago who claimed he had no responsibility for all the problems that were happening at a DOD location out in the Midwest. He said he was only the operational commander, and that he wasn't in acquisition; he wasn't responsible for the problems.

Finally I called Admiral Crowe and said, we need to straighten this out. It took six months, but we finally got it straightened out. I wonder if we have some duplication here that wouldn't be necessary if we had somebody in charge of the overall coordination.

Mr. **Dicks**. Would you yield? Apparently there was a draft copy of General Powell's study on roles and missions concluding that we can no longer afford to allow multiple organizations to be involved in similar independent, often redundant space roles and functions.

The study then concluded that the Army and Navy space command should be disestablished, the CINCSPACE role should be strengthened. And the Air Force should be given responsibilities for development of future military space systems.

Does anybody know why that recommendation didn't make it into the final report on roles and missions?

General HARD. Well, I think there was still discussion about the need to ensure that the other services could adequately speak to their specific service needs and still get those needs addressed by the systems that were being developed by others.

The notion of having a single person in charge of all space systems is not a new notion to us in the Air Force. We strived for awhile, struggled, with that concept to see if there shouldn't be somebody in charge of space with that his only domain.

As it stands, in the operational command, that is pretty straight forward. We have an operational command called Air Force Space Command. He is in charge of operation of all space systems knowing that they are used by operators from all the other services and agencies. But his true hat is an operational hat. He has a direct link, through regular meetings and additionally daily conversations with the acquisition segments in our Materiel Command's Space and Missile Center in Los Angeles, which responds with most of the Air Force programs that directly support the Space Command operator.

When we put the acquisition program offices together, we infiltrate them with representatives from the other services to ensure that the other services' needs are addressed beyond our normal interface.

But how these needs start out was properly identified earlier. The needs start out in a validation process that is chaired by the vice chairman and includes the other services to ensure that we have the proper set. That is a good start. Then to ensure that we respond to those needs with acquisition programs that are cost effective and responsive, we continue the dialogue. It is not just a one-time deal to validate the requirements. We continue the dialogue.

Usually that dialogue is led by the program office that is acquiring the new capability. Once we field the system, Air Force Space Command continues to operate that system as a service, making sure that it is in the right orbit, has the right attitude, that the batteries are charged so that the satellite payload systems can be used by all the other users.

When the payload is used, the satellite doesn't know what color uniform is on the other end. The machinery works well as long as we have put it together properly in the process I tried to explain.

So when it became time to address if we should have a single guru in the Air Force for all of space, we did not choose to do that. We decided to have someone who was in charge of operations, someone who by law is in charge of acquisition and then to make that integration work below them.

I happen to enjoy a position as the head of an acquisition staff wherein my portfolio contains only space systems. My PEO counterpart in charge of executing the acquisition programs has only space systems. As we integrate the systems in the total war fighting structure, we spend a lot of time with people in other services besides in our own to ensure that it is all integrated together.

It is a question of how to slice the cake? For instance, we don't have a guru of all airplanes or for ammunition. We elected instead to slice the cake horizontally with someone in charge of operations with overall operational command and then someone in charge of overall acquisition; and parceling it out that way.

Mr. MURTHA. I understand what you are saying, but I am looking at an analogous situation down the road of our not being able to build separate airplanes for all the services.

What I am trying to do is get to a way that would be a more efficient use of money that we have available. Less money is available and yet the missions have not slowed down. So we are going to have to be more efficient than ever.

We will start working on some suggestions maybe by this time next year. We may not come up with a recommendation to consolidate anything. On the other hand, it seems like we should have somebody in charge of space. It works fine in medical programs. They resisted it for years, and we have been working for about seven years. So it is not something we expect to change overnight.

On the other hand, it is a big program with a lot of money. If we can save even 5 or 10 percent, it would be a substantial savings, obviously.

Mr. Dicks.

MILSTAR

Mr. DICKS. MILSTAR. The committee has followed the MILSTAR program for many years. We have seen that there is $973 million in the budget this year which is a decrease of $150 to $180 million.

What is the status of the MILSTAR program?

General HARD. I can give you a quick summary. We have completed the first satellite. It is waiting for launch. The second satellite will be completed next year. Those two satellites have a low data rate payload only. We have started development of a medium data rate payload which would be more responsive to tactical use. That payload will be available for launch in 1999.

The money that we took out of the budget in FY 1994 was money that was freed up by virtue of taking out some of the concurrency and, therefore, the risk as well, that was in the program. We were, basically, starting development of satellite number four before we had completed the Critical Design Review. That is a recognizable risk, and one that you can undertake. But we prefer not to have that in the program.

It fit in also in our search for lowering the budget in 1994. So we took that risk out, took that concurrency out of the program and deferred $180 million from 1994 resulting in a nine month slip to the launch of satellite number 4. The program stands in good shape at present. The development of the medium data rate payload has just started. The issue of how to make better efficiencies in the future—that is to go to the next generation if you will of MILSTAR—is a subject of the bottom-up review, and a subject of much study in the Air Force, DOD and other services.

We think that eventually we can get to a more efficient, less costly space craft primarily going to a smaller bus than the bus that we decided for MILSTAR, which was designed to withstand protracted nuclear warfare. The question is how quickly can you get to that objective space craft? Should you fly four of the medium data rate MILSTARs? Or should you go directly to a new approach.

So that is the issue that we are facing in the bottom-up review in MILSATCOM.

Mr. DICKS. Is MILSTAR a strong priority still for the Army and the Navy?

General ADAMS. Absolutely, sir. We believe that we have got to have assured access. We do have some requirements for anti-jam capabilities, 70 nautical mile stand off.

We want whatever satellite system to be capable and its terminals capable of high mobility operations, HMMWV mounted. It has to be transportable on the C–130. I am talking about the terminals. We are very interested in the medium data rate because of the range of extension.

Mr. DICKS. What will the medium data rate provide for you? Why do you feel MILSTAR is such a high priority?

General ADAMS. Sir, our area comm system, is like a cellular telephone on the battlefield. We need the range extension that MILSTAR can give us. That is one of the principal things that it does for us. We need to be able to go out great distances, so the commander must be able to communicate while he and his forces are moving. And MILSTAR gives us that range of extension.

Mr. DICKS. Would the Army still like to see this program funded?

General ADAMS. Yes, sir.

Mr. DICKS. There was an effort earlier this year to kill the program. Some of us who have been strong supporters intervened at the highest levels of DOD to keep it going. It is now part of the bottom-up review. I think it is important to establish a record here today of why the war fighters, in essence, believe this is an important contribution.

General ADAMS. Yes, sir.

Mr. DICKS. Admiral.

Admiral JORDAN. The Navy also stands strongly behind the program, particularly in the indication of medium data rate Navy ships and especially Navy submarines are disadvantaged tactical users in that we can't put large antennas on those platforms.

Medium data rate gives us the capability to put the maximum throughput for targeting, imagery, moving large chunks of information to those mobile platforms; and, frankly, it is the most attractive way to get there.

The requirements for EHF have been reviewed and adjusted over the past few years. In fact, we recently adjusted them in the fall of 1992. The Navy was very much involved in the review of those requirements, and we strongly support the requirements as they currently stand.

Mr. DICKS. Some have suggested that in the bottom-up review that you might want to do the upgrades sooner, or try to figure to minimize this payload, in order to put it on another launch vehicle, another bus.

But it seems to me-and I'd like your reaction-that it would be better, if we are going to try to figure out a way to downsize the satellite and put on a smaller launcher, wouldn't you agree we should put on orbit the four satellites with the medium data rate capabilities, before we move on to some new system?

Would the Army and the Navy like to see us move ahead and establish the medium data rate capabilities, then, begin to find ways to put smaller payloads on smaller satellites which would be able to be launched on a different space launcher?

Admiral JORDAN. For the Navy, we are not the executive agent for the program. If the Air Force or if the executive agent can come up with an alternative program that meets the schedule and capability, we would defer to that. I am not aware of an alternative such as that at this time.

Under the Bottom-Up Review, a number of alternatives are being looked at by a technical working group. That technical working group, as far as I know, has not yet reported out.

General ADAMS. I would echo the Admiral's comments. We are ultimately interested in product, not so much the bus itself. We believe we have a MILSTAR-like capability requirement right now.

General HARD. In fact, if I get away from this testimony quickly enough, we are presenting the results of the working group's discussion of this to Dr. Deutch this afternoon. There are some interesting options.

The question is how much money do you want to invest; and when do you want to invest it for the follow on, whether it is a block change to the MILSTAR, Roman numeral II with medium data rate, or whether it is a brand new satellite.

The approach you mentioned, which is to go to four medium data rate MILSTARs, is an option considered. It has some advantages particularly of providing operational capability sooner and full operational capability. The disadvantage is you don't save quite as much money by doing that because you would basically have two developments going on. You would have to start a wedge for the block change after the fourth satellite a little earlier. There are some advantages to that approach and one that is liked by the other services.

Mr. DICKS. I hope we will get the requirement met as quickly as we can. It seems to me the way to do that now is with medium data rate capabilities on satellites three through six. We ought to stay with that and make adjustments further down the road when technologies are available. That is my position.

Thank you, Mr. Chairman.

Mr. MURTHA. This is one of the programs which was troubled with overruns, and we were so concerned that we cut all the money out a couple of years ago. Then we asked Mr. Dicks to take a look at it and see what he could work out because all the services then started to look at what they had lost.

Sometimes you get one service which feels this program is less important when they have the money responsibility and yet a user is somebody else. C–17 is an example of that because at one time it fell by the wayside because the Air Force had so many essential programs on its agenda that it let it slip. Yet the Air Force knew it was important. We may need some coordination.

You can give Mr. Dicks credit for saving the MILSTAR program because he did phenomenal work in working his way through all the different services, working through the Secretary's office and saving this program. He did a good job, and the country is indebted to him.

Mr. Visclosky.

LAUNCH FACILITY IMPROVEMENTS

Mr. VISCLOSKY. Thank you, Mr. Chairman. We have talked a lot about the rockets or, I guess, buses and payloads. I would like to talk about the ground facilities.

Do we have a backlog in terms of upgrading our ground facilities?

General HARD. The user terminal programs are well under way and are presently in coordination with the baseline MILSTAR satellite program. So we won't be in the embarrassment of having a satellite with no terminals or vice versa. The ground portion-there are two ground portions. There are user terminals for the tank, the submarine, the aircraft that actually uses MILSTAR to communicate with some other user terminal. And then there is a ground facility which manages and flies, if you will, the satellite, the command and control, and telemetry piece of operations. That is done by Air Force Space Command in Colorado Springs. That is also proceeding apace.

I would say that one of the issues that has risen in our Bottom-Up Review is how to keep those programs connected? And for instance, if we delay delivery of satellite capability as proposed in some of the options we could get out of synchronization with the development and build and availability of the terminals. We would consider that a disadvantage.

So we are trying to keep those tightly connected. And I think they are fairly well connected at the present time.

Mr. VISCLOSKY. Is there a backlog in upgrading the ground facilities for the space program that the DOD runs?

I am told you have about $2 billion worth of backlog in upgrades, in terms of communications, range safety, and the facilities where you match the payload to the rocket.

General HARD. Speaking of the launch vehicles, there are some catch up activities and efforts we have funded to upgrade the infrastructure associated with launch vehicles and the range; range safety considerations, et cetera.

A big piece of that is range automation. Right now, we configure the range to support a shuttle launch it takes a good piece of time before we can reconfigure it to support a Titan launch next. We are trying to make corrections there. The Army operates the DSCS communications terminals, and I believe there is a small chunk of money there to support upgrades of the DSCS terminals which would be a communications terminal also.

Mr. VISCLOSKY. In terms of your large facilities and the range, safety issue, how many dollars are we talking about in upgrades?

General HARD. We have put in close to $1 billion across the FYDP to continue a program that we started last year in terms of getting caught up on the infrastructure.

Let me explain what happened. As we started to fly out the last of the expendable launch vehicles when the NASA space transportation shuttle was coming of age, we presumed that we were seeing the end of the Deltas and the Titans and the Atlases so we didn't put in much money to support the infrastructure to fly those expendable launch vehicles.

After the shuttle accident and the Titan failures when we realized we were in dire straits to be able to launch military national security satellites. Our program to recover from those failures was almost all pointed towards fixing launch vehicles, and we only fixed the launch pads and infrastructure well enough to launch those first vehicles.

Then we went back with a more careful and prudent review. By that time, it was a horror story. Buildings were basically rotting away. I guess the nicest way I could say it is we were putting in less than one-tenth of the kind of money that you would normally put in to protect your capital investments in similar industrial activities.

Mr. Visclosky. If you put in a billion dollars, how much more would you need to get current?

General Hard. A billion would get us through the FYDP. We have categorized these upgrades to identify those that absolutely must be done in order to continue launch operations and then those that were prudent investments in order to save money in the out years, if you will, and then a third category which made sense and would be cost effective if we could afford them. Within our launch infrastructure upgrade, we have funded all of the Category 1 "must improves" and we are starting to work on the Category 2.

Mr. Visclosky. How much money is involved in Category 2? And how much have you obligated? How much more are you going to be asking us for?

General Hard. I will submit the exact numbers.

[The information follows:]

The Category 2 project listing is an follows:

CATEGORY 2, INCREASED RELIABILITY AND EFFICIENCY

[In millions of dollars]

	FY90–93	FY94	FY95	FY96	FY97	FY98	FY99
Items funded in the FY 94–99 budget:							
Medium Launch Vehicle Performance Upgrades (3600)	0	8.0	6.0	0	0	0	0
Items not funded in the FY 94–99 budget:							
Range Standardization and Automation (3080)	0	8.3	103.1	98.1	67.5	106.4	
Titan IV Reliability Upgrades (3600)	0	28.0	51.6	19.6	10.2	0	0
Medium Launch Vehicle Performance Upgrades	0	0	7.0	0	0	0	....
GN2 Pipeline at Cape Canaveral (3080)	0	15.0	15.0	10.0	0	0	0

The majority of the Category 2 projects are not included in the FY 94 budget, and no funding has been obligated to date to accomplish these projects.

Mr. Visclosky. And a similar figure for category 3.

[The information follows:]

The Category 3 project listing is as follows:

CATEGORY 3, PRODUCT IMPROVEMENT

[In millions of dollars]

	FY90–93	FY94	FY95	FY96	FY97	FY98	FY99
Items funded in the FY 94–99 budget:							
Range Standardization and Automation (3080)	0	0	0	0	15.0	15.4	
Titan IV Enhancements (3600)	1.0	1.9	0	0	0	0	0
Medium Launch Vehicle Upgrades	0	16.7	17.8	16.3	20.0	10.0	20.0
West Coast Atlas Pad Logistics (3400)	0	24.2	12.7	43.0	11.1	28.3	29.0

None of the Category 3 projects are included in the FY 94 budget, and no funding has been obligated to date to accomplish these projects.

Mr. Visclosky. General Adams, would you care to talk about the DSCS aspect?

General Adams. We have had some problems with some of the funding, although we believe we now have agreement that we have minimum essential funding in the program, $154 million in 1994, $146 million in 1995, up to $170 million in 1997. This has been a function of our reduced total obligation authority and being forced to make tough choices. We are committed to try to do the modernization, and intend to fix the out years in the next POM drill.

Mr. Visclosky. What is your sense of the magnitude of the backlog as far as DSCS, in current year dollars?

General Adams. I couldn't even offer a good guess. I will provide that for the record.

[The information follows:]

The FY93-FY99 future year defense plan (FYDP) fully supports the Joint Chiefs of Staff (JCS) minimum essential requirements for modernization of the Defense Satellite Communications System (DSCS) ground segment, which includes the terminals and control equipment. The result or backlog observed from reduced funding is a delay in the modernization effort with a continued higher cost in the modernization effort with a continued higher cost in operations and maintenance of the older systems until such time as the modernization effort is implemented. The program is currently being executed and is on schedule in accordance with current funding.

METEOROLOGICAL SATELLITES

Mr. Visclosky. I understand that the Navy, Air Force, and the Department of Commerce all have meteorological satellite programs.

Historically, what is the genesis of the three departments having independent meteorological programs?

General Hard. The problem that we face is that the military user needs a little bit different data than the non-military user. The low earth orbiting satellites, use basically the same "bus" as we call it, or basic space craft on which we attach the payloads. So they are very similar.

We have taken steps in the last few months to understand those differences and to see if there isn't a way that we could make more sense out of combining the programs further. We have seen sensible things to do which would allow us to, for instance, integrate our schedules a bit better so that the bus that might have flown a military satellite could be used instead to fly a civilian payload if it were on a more demanding schedule.

We are looking to see if it doesn't make sense to further integrate the civil activities with military activities. That effort is ongoing, and I would expect to make some progress this summer—so certainly by the fall—we would be able to report back to you and tell you our findings.

[The information follows:]

Our schedule for evaluating the potential for schedule and program integration of civil and military meteorological satellite activities is as follows: Terms of Reference Approval, Jun 93; Requirements/Architecture Review Summary Report and Recommendations, Aug 93; Implementation Options Analysis Summary Report and Recommendations, Dec 93; and Approval of Tri-Agency revision to existing Memorandum of Agreement on System Cooperation, Mar 94.

Mr. VISCLOSKY. You say the requirements are a little bit different. What does a little bit mean?

General HARD. For instance, we are very interested in cloud height more for military operations. That drives us to a little different optical line scanner approach.

When you are trying to get not just a feeling for the weather patterns, or how a front might be moving through the area, but instead need a very specific precise forecast not just of whether it is raining at location X but how thick the clouds are above there and where there is clear space, you get into different requirements for the military.

Mr. VISCLOSKY. Do military requirements differ between the Air Force and the Navy?

General HARD. The Navy is very interested in surface conditions, which is another thing that civil agencies aren't usually interested in.

Admiral JORDAN. That is right. We have one unique requirement in terms of surface topography data. So we can measure sea heights because we can generate other oceanographic data from that. That capability will be included in the defense meteorologic satellite program in the out years. But in the interim, Navy is putting one, possibly two, GEOSATs in orbit to provide that altimeter data.

Mr. VISCLOSKY. So at some point, you would anticipate the consolidation of the two programs?

Admiral JORDAN. That is correct.

General HARD. We are negotiating this, as I say, in a broader context. I would be reluctant to give specific reports right today of what we expect to do in the out years except to say that we intend to make it better.

Mr. VISCLOSKY. You will be able to do that in August?

General HARD. I am trying to recall the schedule that we are on. We are in the phase of understanding each other's requirements better-in the phase of understanding the two programs. The next step would be to see what synergies would make sense, how far we can go in combining programs.

We ought to be able to give you a better answer by the end of the summer or early fall. If that is not a correct date, I will certainly correct it.

[The information follows:]

DoD is joining the DoC and NASA to assess the potential for additional cost savings through further integration of the operational polar orbiting meteorological satellite programs. We should complete our effort and have draft recommendations by December 1993.

MANAGEMENT OF SPACE PROGRAMS

Mr. **Visclosky**. I would like to express my agreement and concern with the remarks the Chairman made prior to my appearance here as well as subsequent to my attendance.

I think the program is an important one, but I have serious questions in terms of its organization.

Thank you.

Mr. **Darden**. Gentlemen, two or three quick questions here. First of all, General Adams, isn't there a minimum age you have to attain before you become a general?

General **Adams**. Yes, sir.

Mr. **Darden**. What is that age?

General **Adams**. That is a secret.

Mr. **Darden**. You are in violation of it apparently. I am always confused who works for whom and who reports to whom and how space programs are organized.

Who do you report to, Admiral?

Admiral **Jordan**. I am the deputy to Vice Admiral Tuttle, the Director of Space Electronic Warfare. He reports to the Chief of Naval Operations.

Mr. **Darden**. General Adams?

General **Adams**. I report to the Assistant Deputy Chief of Staff for Operations and Plans for Force Development, who reports to the Deputy Chief of Staff for Operations and Plans, who reports to the Chief of Staff of the Army.

The chairman asked earlier who is in charge. A step the Army took recently is to move what used to be our space and special weapons division into the force development process, so we now have a single focal point on the Army staff for space matters in the Office of Deputy Chief of Staff for Operations.

Mr. **Darden**. Dr. Schneiter, you report to Dr. Perry, who reports to Mr. Aspin?

Dr. **Schneiter**. I report directly to Mr. Deutch, the Under Secretary for Acquisition, who reports to Dr. Perry.

Mr. **Darden**. So your line is to Mr. Aspin, General?

General **Hard**. I run a staff office for the Assistant Secretary of the Air Force for Acquisition. I manage space programs. I work hand in hand with our operational side of the house who works for the Chief of Staff. The Assistant Secretary, of course, reports to the Secretary of the Air Force.

Mr. **Darden**. No one reports, then, to CINCSPACE. What is the relationship that you have in practical terms to CINCSPACE?

General **Hard**. CINCSPACE is our major customer, if you will. CINCSPACE runs a unified command, and he wears two other hats. He is the CINC of NORAD, and he is the commander of the Air Force Space Command. This is, of course, General Horner.

I look to him as our customer. My boss is the Air Force Service Acquisition Executive and I work through the acquisition chain. CINCSPACE's direct representative in the Pentagon is within our DCS for operations who works for the Chief of Staff.

Mr. DARDEN. Your customer has been vocal about the fact that the military needs to play a much bigger role in the development of acquisition and operation of space programs.

Do you have any comment along those lines?

General HARD. I would certainly not refute what General Horner says. I agree with the efforts that General Horner has taken to bring attention to the importance of space systems and how they fit into military force structure.

I also think that he is on track in recognizing that there is a threat to our use of space systems or a threat from the enemy's use of space systems. And although it is a thorny policy issue, we must address the issue of control of space which usually conjures up notions of ASATs—but it doesn't have to be ASATs—there are lots of different ways to control the use of space. I also endorse his priorities.

If I could try to summarize the CINC's priorities, I believe he holds our Follow-on Early Warning System as his highest priority. I know he thinks that we must be serious about having a ballistic missile defense capability. And he is very strong in his support for an improved launch capability. And those are exactly the right priorities, in my opinion.

SPACE LAUNCH

Mr. DARDEN. According to committee staff, he has said our space launch record is a horror story because of the delays, et cetera.

How does that compare with your opinion?

General HARD. I would agree that we have not done well with our space launch systems since the recovery from the shuttle accident. We were in the process of converting all of our payloads from expendable launch vehicles to be launches on the shuttle.

After the shuttle accident, the fixes to that took away a lot of payload capability. More importantly, the shuttle wasn't available for launch for a couple of years, and we needed to launch military satellites. There was a decision made to go back to expendable launch vehicles for the national security payloads. In the start up of that program, we scrambled to provide the best capability we could with what was available. The vehicles we are using now are hand me downs from the ICBM days. They were designed in the 1960s. They have had major redesigns since the shuttle accident but we are trying to do the best we can with some very inferior equipment.

Mr. DARDEN. What are you doing at Vandenberg now?

General HARD. We are still launching Titans from Vandenberg, both the large Titan IV and the smaller Titan II which supports some of the weather satellites. We will be using that as well for an Atlas capability in the future.

In the Cape, we operate all three systems: Atlas, Delta and Titan. The launch systems do need attention. It is very hard to fix them with a Band-Aid approach.

The best systems that I could point to today, the kind we would like to be operating are operated by the French and Russians and will be by the Japanese.

MANAGEMENT OF SPACE PROGRAMS

Mr. DARDEN. Dr. Schneiter, I realize this question has political implications, even though it is not intended at all. Because of the tremendous cost associated with military space programs, $15 billion, and the amount that we spend on civilian space programs, couldn't more programs be combined in a more efficient way as far as the taxpayers are concerned?

Even though we have a lot of roles and missions that are different, it seems there is a tremendous amount of similarity. Don't you think the time has come for us to start looking toward trying to combine these programs and getting more for the taxpayers' dollar?

Dr. SCHNEITER. Combining the military space programs with civilian space programs?

Mr. DARDEN. Yes.

Dr. SCHNEITER. To the extent that we can do that, certainly both sides would benefit.

I know that some of the work being done in ARPA with regard to small payloads is looking at making better dual-use capabilities of systems so that they can be used by both sides. It is easier to do at the smaller end of the payload spectrum than with some of the larger systems, where there are unique DOD requirements. Titan IV is a good example. There we are talking principally about a system that is only used by the DOD.

One of the concepts that we are looking at in the space launch area, however, is to develop a new family of launch vehicles. And if we do that, we may begin at the small end of the payload spectrum, the weight capability spectrum, and such a system would be useful, then, for the commercial sector as well. That would be a side benefit of developing a new system. That is one of the things we are looking at in the bottom-up review. That is something we would like to do.

The question is one of near-term affordability, because there is a large development cost associated with that.

Mr. DARDEN. Does DOD communicate with NASA?

Dr. SCHNEITER. Yes. In our task force on space launch in the Bottom-Up Review, we have a NASA official as a member of our group.

Similarly, NASA is undergoing a study on their space launch future; and people from my office and from General Hard's office participate in that as well. We work very closely with them.

Mr. DARDEN. Thank you, Mr. Chairman.

COMMERCIAL COMMUNICATIONS SATELLITES

Mr. MURTHA. Two years ago the Committee added $15 million above the budget and directed the Military Satellite Office at the Defense Information Systems Agency to award contracts to commercial communications satellite firms to make recommendations as to how DOD might better use projected civilian space communications systems. What is the status of that effort?

General HARD. We have undertaken a further scrub and review of how many requirements can be satisfied by commercial communication systems. I had a piece of paper on that particular issue,

but I don't seem to have it right at my finger tips. I will try to repeat from memory.

The work that was undertaken by DISA was to review, basically, the requirements of the services and other government agencies, and to try to identify those that could be supported by commercial systems. That work is ongoing and has quarterly reviews, the most recent of which was just last week. The final quarterly review of this Commercial Satellite Communications Initiative study will be this August, with the study completed in September, and the final report should be available in November 93. This schedule fits in with the additional milestones that were established in the whole MILSATCOM architecture arena.

Basically, I am saying that we are paying attention to that. There have been concerted efforts going on but as to the exact expenditure of the funds that were appropriated, I will have to get a more specific answer and submit it for the record.

[The information follows:]

Since July 1992, the CSCI contractors have analyzed DoD current and projected requirements. They have developed alternatives for an effective use of commercial resources, without an adverse affect on missions or national security. This status report will summarize the major findings to date.

Savings may be realized by pursuing a top down, private network concept with whole transponder leases as opposed to individual circuit leases. A private network concept, as recommended in the study, allows better DoD control of leased commercial assets and assures access to the space segment by having terminals collocated with the user as customer premise equipment. A DoD private network concept is in concert with evolving commercial markets for large multinational companies. A number of issues associated with host nation regulatory structures are already being addressed by commercial satellite communications (SATCOM) providers. Short term initiatives are being pursued for volume use discounts by centralized billing centers.

The requirements analysis shows that commercial services can support General Purpose requirements in a benign, no jamming environment. Commercial SATCOM can support only limited Core requirements. A limited subset of lower data rate Core requirements are technically supportable in a jamming environment, but at high costs caused by inefficient use of bandwidth. Commercial services can employ less sophisticated countermeasures to counter unintentional jamming or interference, but the pursuit of more sophisticated jamming countermeasures cannot be justified because of additional costs associated with customized modems, more required bandwidth, and less than fully effective performance measures associated with higher levels of jamming.

High data rate mobile user services are also a challenge. Current commercial L-band mobile satellite service (MSS) frequency allocations are highly constrained. Providing these services in the fixed satellite service (FSS) frequency band may be possible, but requires more detailed evaluation because of frequency coordination issues.

A number of promising commercial MSS systems are on the future horizon and the DoD could benefit from them. However, the outcome of the future mobile Low Earth Orbit (LEO) satellite systems is cloudy. Although the DoD is not a dominant user of current or future MSS systems with respect to total capacity, the Dod is an important customer in terms of the current and future dollars spent for MSS. The CSCI contractors perceive that DoD is in a position to exert influence in current and evolving MSS markets.

Contract options have been exercised for demonstrations. Four demonstrations planned for this summer are as follows:

Hughes Corporation: Application of future direct broadcast technology in direct support of secondary image dissemination.

Hughes Corporation: Use of a modern commercial satellite control system and commercial off the shelf equipment to show dynamic network reconfiguration of several different sized terminals and seamless connectivity into the Defense Switch Network (DSN).

Space Systems/Loral: Use of a transportable gateway for mobile user contingencies. Multicast capability and network interoperability between current (INMARSAT) and simulated future (Globalstar) mobile satellite systems.

COMSAT: Demonstration of fiber optic ATM handling protocols over a commercial satellite to show extension of high data rate services to remote areas for a wide area network concept. A transportable earth station will be used.

The remaining work on the CSCI project will refine the four recommended architectures and prepare implementation plans. These plans will include a transition strategy to a DoD private network service, logistics support, acquisition alternatives, and a host nation approval negotiation strategy. In conclusion, the Department has identified new opportunities to use commercial SATCOM in a cost effective manner as part of an integrated MILSATCOM architecture.

Mr. MURTHA. Information, informally, we have is that it is going well.

General HARD. That is my understanding.

SOLID ROCKET MOTOR UPGRADE

Mr. MURTHA. Last year the Committee included a general provision directing the Air Force to resolve several outstanding contractual issues between the Air Force, the prime contractor and the subcontractor which produces the solid rocket motor upgrade. We were supposed to have a report by 1 March. We haven't heard anything. Is that resolved?

General HARD. We are reaching resolution. We asked to defer the report until we had actually identified the sources for the funding that was required this year.

We have identified sources for about a little over one-third. We had some money that we had already budgeted to slow down production. And we have started on some of the more appropriate pieces of work of the direction that was provided in last year's legislation.

The short of it is that we have changed the contract structure. We have reached agreement on how to slow the program to put it into the right shape. We have not yet reached agreement on the amortization issue, working capital and claims issues, some of those costs will probably not be funded until next year.

I can give you a discrete break out of all this. But suffice it to say, in general terms, that we are about halfway there. We will probably have another $200 million or so that we will have to fund at a later date, but we would like to avoid using a specific number there because that indicates our negotiating position.

Mr. MURTHA. Mr. Young.

FOLLOW-ON EARLY WARNING SYSTEM

Mr. YOUNG. Thank you, Mr. Chairman.

In the hearing this morning I asked several questions about the FEWS system. I wanted to follow up with that at this hearing.

What are we calling it these days, Follow-On Early Warning System or Improved Space Based Tactical Warning and Attack Assessment System?

General HARD. I choose to call it Follow-On Early Warning System.

Mr. YOUNG. At least we know what we are talking about?

General HARD. Yes, sir. The other term was invented to help square the books away in the comptroller's shop.

Mr. YOUNG. The budget request is $214,790,000?

General HARD. That is closer than I could have guessed.

Mr. YOUNG. What are you going to be doing with that money.

General HARD. We are halfway through the demonstration and validation phase of the program. We will finish that in summer 94, culminating with a Defense Acquisition Board Review. At that time we will narrow down to one contractor to build the system and deploy it.

Work to date has gone well. We went through additional scrutiny to be sure we had the right set of requirements, to be sure we had the right technology plan, to be sure we had the right exit criteria for the DEM–VAL phase.

We have planned a review to ensure that the technology is maturing as we had hoped and that we are on track for the full DEM–VAL.

That review will be coming up later this year, and we are confident that we will have good news to tell there. The work goes well.

One of the major areas of concern, for instance, was the amount of yield of these chips and sensors for production that meet the quality that is needed. We have exceeded our expectations by fourfold in some cases, for one contractor team. There is every expectation that by the end of the DEM–VAL phase the teams will have operating focal plane arrays although it may not be fully populated with all the sensor elements.

I could add more detail, but basically there is good news there. We are making good progress. We are very pleased with that progress, and we will be able to see that in more detail this year. And we will finish up next year. We are on track.

Mr. YOUNG. We are always glad to get the good news. Amplify for the record.

[The information follows:]

We started a two-year competitive effort in July of 1992, with the goal of mitigating the highest risk areas in the technology and producibility areas within the first year. We will review contractor progress in these risk areas in July 1993. We have established about a dozen specific items with each contractor team for demonstration and analysis. The results from successful completion of these criteria will give us high confidence that we can build the FEWS system with the desired performance and at an affordable price. We have already completed the work and written up reports from the first six of these criteria. They will all be complete by the middle of July. We are closely working with the DOD experts for technology and manufacturing as we go along. This summer's DAB Program Review really will solidify our belief that the years of work on the Boost Surveillance and Tracking System (BSTS) have paid off with an achievable and affordable FEWS program.

The Air Force and the Department of Defense have looked at the issue of continuing DSP, upgrading DSP, or developing a new system such as FEWS many times in recent years. The answer keeps coming back to development of a new system. This was addressed at the Milestone I Defense Acquisition Board review for the FEWS program in December 1991 and has been reviewed again in an Air Force study now being prepared for Congress.

Today's DSP system has a number of significant shortfalls for the Tactical Warning and Attack Assessment (TW/AA) mission. These shortfalls are the result of a system designed for the 1970's threat of very large and bright ICBMs, and the result of a system which used the technology available in the 1970's. The major shortfalls of DSP stem from the fixed scan rate, a data processing architecture which prevents quick transmission of warning messages to theater users, limited sensitivity of the sensor, and solar outages.

The DSP satellite scans for targets by spinning the sensor. Since the sensor rotates at this fixed spin rate, the satellite can only see targets as often as the satellite spins around again. If the satellite would spin faster it could detect and construct missile tracks faster. However, this faster spin rate would result in less sensitivity, with the possibility of missing some of the targets which it is currently able to detect.

The DSP system collects data and then passes the data to ground stations where it can be processed and analyzed. Once missile tracks are developed at the ground stations, warning messages can then be transmitted to National Authorities or to the Theater Commanders. This process did not have to be as fast when the only threats were ICBMs targeted against the US from halfway around the earth. For today's threats of shorter range missiles and theater interests, the resulting warning time is inadequate. Lives are at risk based on timely and accurate warning.

The basic sensor on the DSP satellites has limited sensitivity against many of today's targets. The detectors are made of a lead-sulfide material which is almost out of production today and is just not capable of seeing the booster burn of some of today's threat missiles. The system was designed to operate primarily in the short-wave infrared frequency band. The medium-wave infrared frequency band offers the ability to track dimmer targets, but is not fully exploited in the DSP design.

The DSP system is susceptible to solar outages due to seasonal variations in the position of the sun relative to the satellites. This is a design limitation of the basis telescope which collects the infrared energy and can be corrected with better telescope designs such as those planned for FEWS.

The above DSP shortfalls, plus others which we can only discuss in a closed session, combine to make the DSP system inadequate to meet today's threat and without the potential to grow to meet tomorrow's threat of proliferated, dim, short-burning missiles.

We have studied a number of ways to incorporate changes to DSP to overcome some of these shortfalls. We looked at an upgraded system termed DSP++ at the time of the FEWS Milestone I DAB. As changes are made to overcome the biggest shortcomings, the cost of incorporating these changes quickly approaches the cost of development and producing a new system like FEWS. The resulting DSP upgrade still does not have the potential to grow to meet the future threat.

In addition, FEWS is being designed to accumulate savings through reduced operation and support costs as soon as it reaches an operational capability and replaces DSP. It will do this by utilizing a single CONUS ground station rather than the three worldwide ground stations of DSP, by cutting the system manpower by 50%, and with longer-lived satellites which drive lower production and launch rates.

Another question normally associated with FEWS is how it will operate with the Brilliant Eyes (BE) system. There were a series of questions raised by the Senate in FY92 deliberations which have resulted in an intensive study by the Air Force. This study is being used right now as the basis for an OSD (C3I) report to the Senate.

A basic finding of the study is that it is cheaper to keep the two systems, FEWS and BE, for the two separate missions of the TW/AA and Ballistic Missile Defense (BMD), rather than a single platform to perform both missions. The combined system would also result in increased complexity and serious concerns for control of the single platform to satisfy both missions. Another basic finding of the study is that it is cheaper to perform the TW/AA mission at high altitude with a small number of satellites rather than with a proliferated constellation of satellites at lower orbit. As a follow-up effort to the study, we have evaluated how the FEWS and BE system can support each other, with the conclusion that the accuracy of warning data from FEWS will allow us to reduce the BE constellation.

FEWS is the highest space system priority to CINCSPACE, and is on a low risk track for deployment with first launch soon after the turn of the century. BE is less certain and highly linked to the emergence of projected threats and deployment of ballistic missile defense systems. As FEWS is established and provides the needed, global surveillance, Brilliant Eyes can build upon this foundation and augment the Ballistic Missile Defense architecture.

Past and current studies re-affirm the Air Force decision to pursue FEWS as the future system for global TW/AA mission needs.

Mr. YOUNG. Last year you had about a four-month slip in awarding demonstration/validation contracts.

Will that four-month slip affect the selection?

General HARD. I included that four-month slip when I said we would be through next summer. The additional four months were used to dot the I's and cross the T's for everybody's agreement to insure we had the right technology program and the right exit criteria.

Mr. YOUNG. If there were any weak points in the program that would make this susceptible to the budget cutters, what would it be?

General HARD. It is a new program. In this environment, it is pretty tough for new starts.

I would say, though, that improved TW/AA has been the number one priority program for each CINCSPACE for as long as they have been putting out integrated priority lists. Our first attempt to upgrade to our tactical warning capability was started in 1984.

The program lost progress for a while when it was pulled into SDI, and they tried to make it more than just tactical warning, that is, to make it a BMD System.

When we got it back, we suffered for a year or two when we went through the trauma of restructuring the program. We finally got it started again. I can't say enough strong words about this program and how important it is to us. Certainly, I could if we were in a classified setting. I would show you the differences in actual capability. This morning some were mentioned. But in addition to correcting area coverage problems from geometry or known outages, and being able to see better smaller and dimmer missiles, tracking them further along so we have a much better prediction, we can also predict with this system a launch point within the RFK Stadium as opposed to within the confines of Washington, DC.

Most importantly, this new system will provide direct dissemination of data to the users that need it most. It doesn't go back to a ground station and get massaged and sent back out. It goes directly to the user that needs that information immediately.

It is also a good foundation for ballistic missile defense. It helps us tailor, for instance, a Brilliant Eyes constellation so we can make better use of our money. It is like an AWACS tipping off a F–15 on board radar. It is a very good, cost-effective system.

Mr. YOUNG. Relate this, if you would, to the warning of the arrival of a Scud and how close to the launching point this would be able to get us?

General HARD. First let me tell you a bit more about finding the Scud. We found the Scuds in the Persian Gulf because the conditions were near optimum. We were able to tailor the constellations. The weather helped us. The Scud itself is fairly bright. There are dimmer targets than that to try to pick up.

The problem with today's satellite system, is it is what we call a spinner meaning that, as the satellite spins on its axis, the sensor catches a data point, goes around and then catches another data point, and then we force those data points to match a template to tell us that the data points are probably from such and such a missile. That is a heck of a way to do business when you're trying to figure out where it came from and where it is going to.

As I said earlier with FEWS, we can get accuracies that allow us to tell the Scud hunter in the F–16 where to look, within an area about the size of RFK Stadium, instead of an area the site of Washington, DC.

Mr. YOUNG. Your news is good and something that troops in the field and battlefield commanders would love to have to protect themselves from the enemy.

General HARD. Yes, sir. I think of all the lessons we learned in Desert Storm, probably the one that meant most to a lot of us who have been in the space business for as long as I have is the fact that we finally saw that lives depend on the abilities of some of these systems.

If you have a good enough sensor to warn and then allow you to defend, I think that is important to pursue, particularly in the world as we see it now where all the emerging nations think that is the way to go is to have a missile capability.

Mr. YOUNG. One more question, using a specific example. In the case of the Pennsylvania National Guard, men and women who were in the barracks when the Scud hit, which was probably our largest group loss of life in Desert Storm: How would a workable Follow-On Early Warning System have affected that? Would it have given them warning to abandon the barracks?

General HARD. Yes. With that kind of a system, as soon as something is launched we can have a patrol available to go after the launcher. So the guy that has launched it knows he only has a few seconds before his day is going to be ruined. That, in itself, serves as a deterrent.

Additionally, it tips off ground radar systems and Patriot kinds of systems so that if you want to engage this incoming missile, you can engage it further back towards its launch point. We want to have a boost phase intercept so that instead of destroying the missile overhead, you destroy it immediately after it comes out of the Transporter Erector Launcher (TEL) or even better, while it is in the TEL.

Mr. YOUNG. The Scud was destroyed into pieces, and they fell back to earth.

General HARD. One of our major concerns is how soon you can intercept the missile that you are trying to defend against. FEWS provides a tremendous foundation for that.

Mr. YOUNG. Thank you very much.

Thank you, Mr. Chairman.

Mr. DICKS. We will include Mr. Skeen's questions for the record, without objection.

[CLERK'S NOTE.—Questions submitted by Mr. Skeen and the answers thereto follow:]

SINGLE STAGE ROCKET TECHNOLOGY

Question. What is that status of the 1993 tests?

Answer. The Single Stage Rocket Technology (SSRT) program will begin flight testing the DC–X vehicle this summer. The DC–X is nearing completion of a series of ground firings with the vehicle tied down to a test stand. With nearly half of the total objectives demonstrated the DC–X testing to date has been completely successful. Current plans are the initial flight test to occur in July.

Question. Because of concerns over the significant cost to proceed to a full-scale orbital version, the fiscal year 1993 conference report directed that no funds could be used for that purpose.

a. Does the DoD fiscal year 1994 budget include any funding for Single Stage Rocket Technology, and is so how much and for what?

b. Does the Department intend to proceed with full-scale orbital development at any point?

Answer. a. The FY 94 Ballistic Missile Defense Organization (BMDO) budget includes $5 million to complete the DC–X flight

test program. After the $5 million is expended in the Nov-Dec 93 time frame, no funding is planned for additional SSRT work.

b. The decision to proceed with the full-scale orbital development has not been made at this time. The successful completion of the DC–X tests this summer will play a role in any future decision. Any decision to move forward will be done in the context of developing requisite technologies or satisfying the full suit of DoD's requirements as part of any new launch vehicle development program. In the Air Force plan for a concept definition phase for Space lifter, they would consider a reusable system, such as an orbit variant of the DC–X, that meets the schedule and payload requirements.

NATIONAL SOLAR OBSERVATORY

Question. Would you provide for the Committee an update of the Air Force's program conducted with the National Solar Observatory? (Please provide an explanation and FY 1994 budget summary for the record.)

Answer. The Air Force conducts in-house solar physics research at the National Solar Observatory (NSO). These activities are managed and performed by the Solar Research Branch of the Space Physics Division, Geophysics Directorate, of the Air Force Materiel Command Phillips Laboratory. The objective is to perform research and development studies into solar activity and processes that impact Air Force systems. Techniques, data, and instrumentation that provide a capability to predict solar disturbances are being developed and transitioned to Air Force Space Forecast Center and the Space and Missiles Center for operational use. The major customers are the Air Weather Service, HQ USAF Directorate of Weather, and Air Force Space Command, who use these products to support the space weather and environmental forecasting needs of the operational commands. Use of the Sacramento Peak Solar Observatory gives the Air Force Access to one of the world's premier solar research facilities, including its instrumentation and staff. In FY 1994, the total funding for Air Force Science and Technology efforts at Sacramento Peak is projected to be $1.2 M.

Question. Please provide an update for the Committee on the Air Force's future (long-term) budget plans for this program.

Answer. The Air Force need for a long-term basic research program in solar physics will continue. This capability is required to predict when solar events such as geomagnetic storms, solar flares, and coronal mass ejections may occur in order to provide warning of disruption to Air Force communications and satellite functions. To provide this predictive capability to the Air Force Space Forecast Center, a better understanding of the phenomena and specific mechanisms leading to such solar events is required. Thus, it is anticipated that the Air Force will need to continue to support a level of effort solar physics research program at the National Solar Observatory.

Question. Would you provide for the Committee an update of the Air Force's program conducted with the National Solar Observatory and its specific programmatic actions at the Sacramento Peak

Solar Observatory (NM) in Fiscal Year 1993, and your proposals for Fiscal Year 1994?

Answer. Air Force activities at the National Solar Research Institute are conducted exclusively at the Sacramento Peak location. In Fiscal Year 1993, research addressed the origins of solar activity and the impact of solar activity on Air Force systems. These efforts support the development of techniques to warn of, mitigate, and exploit the diverse solar and space threats to Air Force assets. Research focuses on user needs for global environmental models and survivable, autonomous space operations. Emphasis has been given to model development, observations, and experimental efforts. An Advanced Solar Activity Modeling Initiative will be directed at analyzing precursor signatures, a major input for improved analytical models. Magnetic shear behavior, a solar activity predictor, will be incorporated into artificial intelligence prediction codes. In FY 1994, solar research efforts will combine kinematic models of solar convection with full three-dimensional magnetohydrodynamics (MHD) simulations to characterize the fundamental drivers of solar activity. Results will be evaluated using data bases collected during the solar maximum active region observing campaigns. The Mark III mirror coronagraph will be completed. Detailed observations of coronal transients and low altitude manifestations of coronal mass ejections will be initiated. The use of coronal data as a long-range predictor of solar activity levels will be assessed. Analysis of vector magnetograph designs will be completed and transitioned to the Air Weather Service for the Air Force Solar Electro Optical Network (SEON) upgrade. Results from the Air Force solar wind experiment (SWIM) on the National Aeronautics and Space Administration Wind spacecraft will be analyzed to determine our ability to predict times when a solar disturbance would seriously perturb the aerospace environment.

[CLERKS NOTE.—End of questions submitted by Mr. Skeen.]

SPACELIFTER

Mr. DICKS. After several years of making significant reductions to both NASA and DOD budget requests, last year the Congress terminated the national launch system. In fiscal year 1994 the Force is requesting $53.9 million to begin development of a new space launch vehicle that some have called Spacelifter.

What will the funds be used for, General Hard?

General HARD. The Spacelifter funds in 1994 would be used to start a serious concept exploration phase. And that would continue into 1995 as well.

Our notion would be to poll industry. There have been a lot of good ideas and good concepts that have been touted by industry. We have based our funding and our expectations on the Air Force's understanding of what seems to be the most credible in our best guess and one that we are most comfortable with in order to size and make a cost estimate for the program.

On the other hand, we are very interested in some of the other technology that is available, the single-staged to orbit technology, two-stage orbit technology, and even upgrades of some of today's vehicles. We think that the best approach would be to have industry come to us and explain in a concept exploration phase exactly how these systems that they propose would work and then we can make a better and more valued judgment as to which one bears the best consideration for funding.

Mr. DICKS. The principal reasons that the Congress terminated the National Launch System were the fragmented DOD and NASA management and the escalating cost.

Would management of Spacelifter be split between NASA and the Air Force?

General HARD. The Air Force would manage this program, sir. The original NLS program was truly a joint program where we tried to satisfy everybody's requirements from the smallest to the largest, manned and unmanned.

The notion that the Air Force is proceeding with now is to capture 75 percent of our requirements with the first configuration of the vehicle that operates up to 20,000 pounds to low earth orbits. That requirement set is exactly where the commercial industry is poised and it captures many of the civil requirements as well.

We note that we can grow that capability to meet unmanned requirements in the Titan launch range, up to 50,000 pounds, by merely growing the initial core capability with a different upper stage and with strap-on solid motors. That would satisfy all of DOD requirements and provide a significant capability for the commercial industry to use in competition with the other launch vehicles of the world. This would let us breathe easier about spending the taxpayers' money better than we spend it today.

Mr. DICKS. How long is it going to take us to figure out what we want to do?

General HARD. The concept exploration phase would not last longer than a year. Then we would be prepared to go into a DEM–VAL phase primarily focused on a new engine, if a new engine is required. For instance, technology is available from the Soviet Union for an engine. Depending on the engine development program, we would be ready to actually start building the rockets.

In any case, we have suggested that we could have the first capability by 2004 if we started today. Now, in the program the Air Force envisions we see spin-offs as well for many of the components could be used by NASA for their manned missions or their interplanetary requirements.

But the proposed program would not be a joint program although we work closely with NASA. I spend as much time every week with my counterpart from NASA as he spends working with me-understanding his activities and he, understanding ours. So we have pretty good coordination there.

Mr. DICKS. It is always the lifter of the future, right? We always keep reaching out there for it.

General HARD. Yes, sir.

TITAN IV

Mr. DICKS. Titan IV is the largest satellite launch vehicle in the U.S. inventory and is required to launch MILSTAR and classified payloads. Because of the cancellation of some programs and slips in others, there has been a significant reduction in the number of launches required.

When the Air Force launched four or five Titans a year, the cost would approach $250 million per launch for the largest payloads. With the launch rate reduced to only two per year, the committee has been told that the cost has increased to over $350 million per launch. Is that correct?

General HARD. That is a good approximation for the outyears. The projected use of Titan in the out-years, beyond the turn of the century, will probably be around-three a year.

Yes, we have taken significant cost increases because of unit costs. Most of the fixed costs remain the same and we are just spreading them over fewer launches per year. That is why the unit costs go up. It presents a problem and one that we are trying to overcome through development of a new family of launch vehicles, as I mentioned earlier.

One of the problems that is reflected from our launch vehicle capability can be seen in the MILSATCOM or the FEWS development. In those cases, we are very concerned about whether the satellite we end up with is one that is launched on an medium launch vehicle or one that is launched on a Titan. The difference can be as much as three times the cost if you have to go to the Titan.

A family of launch vehicles would allow you to grow a hundred pounds on the payload without having to pay an extra hundred million dollars. With the right core you could add two, three, four, or however many solids that you needed to get a marginal increase without a major discontinuity in the total cost of the vehicle. Until we can get to that kind of capability——

Mr. DICKS. One of the reasons that you are looking at a new approach to MILSTAR is because of this very issue?

General HARD. There are two thoughts in the MILSTAR debate. One is, yes, you can save money by getting off Titan and onto an MLV. Two, there is a standard rule of thumb that says once you have a satellite in orbit, if you apply a factor to the weight of that satellite, you will know what its cost is. So if you limit the satellite to a medium-launch vehicle size satellite in today's world, then you are also limiting the actual value of that satellite because you can only cram so much electronics into that weight.

Mr. DICKS. So, are there very direct trade-offs?

General HARD. Yes, sir.

Mr. DICKS. The current Titan IV contract provides for the acquisition of 41 launch vehicles. Given the projected launch requirement, how long will the current Titan IV buy last?

General HARD. Some of those launch vehicles which are pegged for particular payloads will last beyond the turn of the century. We will have to have other launch vehicles about 2000, so you will be launching some new ones some old ones in the same years. Basically the answer is they will last until the turn of the century.

Mr. DICKS. Because of this escalation in cost per launch, because we are cutting back these various payloads, doesn't that make the case for the medium-launch vehicle even more crucial, that we have to find a less expensive way to do this as we are downsizing the defense budget?

General HARD. I clearly think it does, yes, sir.

Mr. Dicks. The cost of the launch is going to be a significant factor in deciding whether we can afford to have a payload.

General Hard. It gets worse. If the Nation doesn't do something to improve its launch systems-and this has been covered in three different reports the most recent of which was done by Pete Aldridge-if the Nation doesn't do something to improve its launch vehicles, we will be in a humbling position within two decades where the best launch vehicles will be on foreign shores, but we will be restricted from using them for our national security payloads.

We think it is prudent policy to be able to launch national security payloads on U.S. rockets, but when the taxpayer realizes we are paying maybe four times as much to do that on a vehicle that is less reliable and less operable, they will start asking questions of why.

Mr. Dicks. That reminds me of America's shipyards. Today, if you want to build a ship in an American shipyard, in some cases it is four times more expensive to do that than it is to buy it in a foreign shipyard.

You are right; this is a very significant issue. I hope we can get on a strategy for the medium-launch vehicle that will hold up. We have been through a number of new initiatives, and each gets scratched, and we move on to the next thing.

We were going to need a great big launch vehicle for SDIO missions, but now we have something different. I hope we can develop a program and solidify support for it.

General Hard. That is a very important point. Sticking with it is the problem we faced before when we did the transition to Shuttle and back. You have to fly out today's launch vehicles and keep them operable during the time they are flying and not forget them as you get enchanted with the new launch vehicle.

The commitment is the most important piece. As far as getting started, we have too many good ideas; and that is why I would propose to blow through some of that smoke with a concept exploration phase in which you get industry to come in and share all those good ideas and neck it down to the ones you want to seriously pursue.

Mr. Dicks. Mr. Visclosky.

Mr. Visclosky. You mentioned at the close of your answer that you are polling the commercial interests to see whether that center of gravity exists. What I understand from your answer is that we don't have a concept in place or a definitive path to follow in terms of the medium-range launch system and that we are still looking for that answer, or did I misunderstand your answer?

General Hard. I might have misunderstood your question.

Mr. Visclosky. Are we still looking for that consistent path to follow after all these fits and starts?

General Hard. No. We have good paths for today's launch vehicles. My comment was that if I pursue a launch vehicle that has a capability up to 20,000 pounds low earth reference orbit that satisfies a majority of DOD requirements, and it happens to be a launch vehicle that is exactly right for satisfying almost all of the commercial requirements.

Mr. Visclosky. That is where you are today?

General Hard. We have three different configurations today, a Titan heavy-lift vehicle——

Mr. Visclosky. Am I correct in understanding that, in terms of the percentage of the payloads you have to launch, only 2 percent or maybe a bit higher percentage of those numbers of payload actually require Titan IV?

General Hard. No, more than that. About 25 percent of our payloads presently are manifested on Titan.

Mr. Visclosky. What does that mean?

General Hard. Scheduled to fly on a Titan.

Mr. Visclosky. Does that mean a Titan is necessary?

General Hard. Yes.

Mr. Visclosky. Let me ask the question a different way. Could a smaller rocket launch those, except those smaller rockets aren't available and Titan is the only option?

General Hard. No. The payloads that are launched on Titan can only be launched on Titan. Some of them used to fit on the Shuttle. Now they don't.

Mr. Visclosky. Would you need a rocket as large as a Titan if a smaller rocket existed today?

General Hard. When I say "big," I am speaking in terms of performance rather than actual structural size. I need a rocket that has the performance to take the 40,000 pounds to low earth orbit.

Mr. Visclosky. Thank you.

Mr. Dicks. General Hard, you indicated there were no other U.S. rockets. Earlier you also mentioned the former Soviet Union; what about their capability? I know we have been thinking about potentially using some of that.

General Hard. There is a lot of interest in that capability. They have very good rockets. The interest has been pursued by the NASA, by the SDIO, and by American companies. The most popular approach seems to be one in which we would license the technology and build the hardware here in America because we would feel more confident about that. There are commercial companies that would propose to do that, but the people that build their larger boosters would prefer to keep that all back in Russia.

So there is a friendly discussion going on now, I think, of how one would proceed with Russian technology.

But again, in the case of the military payloads, it has long been a policy—and I think a prudent policy—that at least we call the system a U.S.-made system, that we don't launch military payloads on foreign launch vehicles. Commercial satellites have been launched more and more on foreign vehicles. Our share of the commercial launch market has declined dramatically.

Mr. Dicks. Also, you have to explain to the taxpayer if it gets three or four times as expensive and it restricts how many satellites we can put up, sometimes you have to make hard decisions. We are also looking for a few ways to help the former Soviet Union. It seems to me this may be an area where they have credible technology.

It never hurts to have a potential competitor out there as we try to negotiate price on these systems.

General Hard. The only thing is confidence that the launch vehicle will be there when you need it.

Mr. VISCLOSKY. You mentioned the Japanese, and was there a third country?

General HARD. The European space agency—they have one of the better launch vehicles and infrastructure today—also the Chinese are trying to sell their Long March commercially. The Japanese are producing a family of vehicles, and the Russians have a pretty good stable.

Mr. VISCLOSKY. Thank you.

GLOBAL POSITIONING SYSTEM

Mr. DICKS. The NAVSTAR global positioning system provides a worldwide accurate common grid three-dimensional positioning and navigational system for military aircraft, ships and ground personnel. The fiscal year 1994 budget request totals $211.3 million for GPS procurement and R&D. Bring the committee up to date on the status of the satellite segment of GPS, including the disposition of the present constellation, next-scheduled satellite launches and the date to achieve full three-dimensional positioning capability?

General HARD. We have three of the old Block I R&D satellites supporting current operations. We have launched 20 of the new Block II satellites. We will launch the next one tomorrow if everything goes right. We will launch another one in June. About six weeks after we launch that one, we expect to have the required number on orbit for initial operational capability.

We have one of the new blocks that is not performing well. So if you add that up, it will be 21 of the new block, three of the old block, to give us 24 initial operational satellites. That is the status of the constellation.

We are not quite in sync with the progress we were making on user equipment for GPS; that is, installing the proper equipment in our aircraft to ensure that we can use this constellation as it becomes fully operational. We have undertaken an effort, and added $36 million to the budget in 1994, to complete integration of GPS equipment into all aircraft in the United States Air Force inventory by the year 2000. This coincides with the time that the civilian agencies would like to eliminate the other radio navigation systems, such as VOR and TACAN.

Mr. DICKS. The contractor developing the ground control segment for the Block 2–R is experiencing delays and cost overruns. The same contractor recently had another Air Force contract terminated under less than favorable conditions for upgrading the software for the current Defense Support Program.

Why is the contractor having difficulties?

General HARD. The contractor had greater difficulties in DSP. We learned from those difficulties and the contractor, in partnership with the Air Force, has restructured his program supporting GPS to make sure we avoid those difficulties. We are on schedule.

We slowed down for a bit as we tried to understand how to accommodate the operate-through characteristics in GPS. I can get more detail for you.

At present, our GPS schedule for Block 2–R is on schedule. We did have those initial delays, as I said, and because of those delays, we used up some of our management reserve in schedules; but we are still looking for a launch date of 1996.

[The information follows:]

IBM has a cost plus award fee contract with the Air Force to develop the ground control segment software for the existing GPS constellation and for the future Block IIR constellation. Current May 93 cost performance reporting shows a cost variance of −$17.5M (−67.8%).

The majority of this cost variance (80%) occurred during the development of software delivered in May of 1993. IBM assumed they would receive a waiver to the DoD requirement to use Ada computer software language, and were unprepared for direction to use Ada nine months after contract award. It took IBM 18 months to overcome this learning curve. This cost growth has led to delays in the delivery of the software to support the existing constellation, but does not impact the expected launch date for the first Block IIR satellite. The problems encountered appear to be under control with new management and incremental deliveries. AFSPACECOM, our customer, is satisfied with the current plan and deliveries of software builds.

Mr. DICKS. The Committee has been told that the contractor is still running a few months late to make the Block 2–R launch date. There have been large software slippages in contracts in DOD.

Is it realistic to assume this software contract, which has already experienced difficulties, will not slip even more?

General HARD. We think we have established the right management mechanisms to keep it from slipping. The first Block IIR launch is in 1996. 1996 is a date that we are comfortable with.

Mr. DICKS. I do not have any further questions.

Mr. VISCLOSKY. No further questions, Mr. Chairman. Thank you.

Mr. DICKS. We thank all of you. There will be additional questions for the record.

The Committee is adjourned until 10:00 o'clock tomorrow.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

MANAGEMENT OF SPACE PROGRAMS

Question. On January 4 of this year, the White House announced the recommendation of an independent non-partisan Space Policy Advisory Board. One of the principal recommendations was that "the number of government agencies performing technical space functions ultimately be reduced to two—one civil and one military." Has any action been taken to implement the recommendation that all military space functions be placed under one organization?

Answer. No action has been taken to implement this specific recommendation. However, in the report of the Chairman of the Joint Chiefs of Staff to the Secretary of Defense on the roles and missions of the military services and the Secretary's Bottom-up review this topic has been addressed, although no final decision has been made that would change the current responsibilities within the Department.

Question. ARPA proposes to begin development of an Extremely High Frequency satellite in fiscal year 1994 that it believes could serve as the MILSTAR polar adjunct. Why do we need both the Air Force and ARPA to begin what appears to be similar, but separate, developments in fiscal year 1994?

Answer. ARPA is not proposing to begin development of an Extremely High Frequency (EHF) satellite in fiscal year 1994. In the

Advanced Satellite Technology and EHF Communications (ASTEC) program, ARPA plans to develop and ground-demonstrate advanced, miniaturized payload component technologies that would significantly increase EHF communications channel capacity per pound. The technology goal is to achieve a 65 percent weight reduction and 50 percent power reduction (compared to MILSTAR) in the key components required for EHF communications payload. The technologies produced will be in the form of generic building blocks applicable to any of the polar adjunct payload concepts planned for further investigation by the Air Force. The ASTEC effort provides a technology foundation that will complement activities accomplished by the Air Force in fiscal year 1994, and will ultimately enable the development of a smaller, lower cost polar adjunct and providing technology insertion for a potentially smaller, lower cost follow-on to MILSTAR.

Question. Late last year the Air Force completed its "Blue Ribbon Review of the Air Force in Space in the 21st Century." One of the principal recommendations was that "the Air Force should actively seek designation as the single manager for DoD space acquisition." What has been done to implement this finding in the Air Force?

Answer. The Air Force is actively pursuing this designation: to eliminate duplicative efforts across the services and achieve economies of scale wherever possible. However, the Air Force cannot unilaterally implement this recommendation. Such a decision is the responsibility of the Secretary of Defense and the Chairman of the Joint Chiefs of Staff. Although the Blue Ribbon Review presented a very strong case for such a consolidation, the Air Force is currently performing an even more detailed assessment of space acquisition to determine the specific benefits that could be achieved. We will be providing this information to both the Secretary and the Chairman to support two studies currently being directed by the joint staff: (1) Evaluating the potential for the merger of US Space Command and US Strategic Command, and (2) addressing the roles, missions, and functions of the various services in acquiring, operating, and using space systems.

MILSTAR

Question. According to media reports, the Air Force tried to kill the entire Milstar program in fiscal year 1994 and it survived only because the Secretary of Defense directed the Air Force to restore the funds. Were these media reports accurate? Why did the Air Force try to kill the program? Is Milstar a low priority to the Air Force or the Department of Defense?

Answer. As a result of the new fiscal reality of a declining budget, the Air Force proposed a reevaluation of the Military Satellite Communications (MILSATCOM) mission area. Subsequent to an internal review, the Air Force recommended a conceptual program which (1) continued the current Milstar funding for the first two Milstar satellites; (2) continued processed extremely high frequency (EHF) medium data rate (MDR) development; and (3) proposed changing the platforms used beyond the Future Years Defense Plan (FYDP). Ultimately, the Air Force was working toward a new processed EHF solution which would maintain a Milstar-similar capability with a lower price tag. Milstar is not a low priority within the Department of Defense. It is the Department's number one command, control, and communication (C3) program. The threat Milstar was designed to meet was recently reexamined and the Milstar features of flexibility, interoperability, low probability of intercept and detection, rapid deployment, and small terminals are exactly those required by today's smaller, CONUS-based military forces.

Question. The first satellite has already been delivered. Is the first launch still on schedule for later this year?

Answer. Yes, later this calendar year.

Question. The Congress directed DOD to cancel a classified payload and replace it with a Medium Data Rate payload that would improve support to tactical forces. This change will be added on satellite number. What do you estimate the non-recurring cost to develop the MDR payload will be?

Answer. The MDR (development only) non-recurring cost is $370 million. This does not include any other non-recurring costs.

Question. What is the status of the development of ground terminals which will use the MDR payload?

Answer. The only terminals capable of using the MDR payload will be the Army developed Secure Mobile Anti-jam Reliable Tactical Terminal (SMART–T) and the Navy developed Navy Extremely High Frequency (EHF) Satellite Program (NESP) MDR modified terminals.

For the SMART–T, the Army let two 40 month contracts in November 1992 for a total of 12 Engineering, Manufacturing, and Development (EMD) terminals. In mid FY96, the Army will downselect to one contractor for Low Rate Initial Production (LRIP) terminals. The first of these deliveries are anticipated in mid 1998. The first Full Rate Production terminals are scheduled in late 2000. The Air Force plans to buy a total of 97 SMART–Ts starting in FY98. Delivery is not scheduled until the turn of the century.

For the NESP modified terminals, the Navy is planning to start the concept phase in 1994 with a two year EMD phase starting in 1995. The first LRIP contract will be let in 1998 with the first production delivery in 2000.

Question. The current plans call for finishing satellite number 3, then retrofitting it with the MDR payload, and finally launching the modified satellite number 3 after satellite number 4 has already been launched. Why does the construction and launch schedule for satellite number 3 appear so convoluted?

Answer. It is convoluted, but necessary for transferring what was to have been a Milstar I satellite into a Milstar II. Current plans call for completion of Satellite 3 with Milstar I components that are functionally compatible with the final configuration. Satellite 3 will then be placed in storage until the medium data rate (MDR) payload is available for integration. The MDR payload is first being designed and integrated on the first new build Milstar II—Satellite 4. Following completion of MDR design, Satellite 3 will be taken out of storage and modified for the MDR payload. The final configuration will be a hybrid of the Milstar I and Milstar II designs. We anticipate completing and launching the modified Satellite 3 as the second Milstar MDR capable satellite, with an expected launch sequence of Satellites 1, 2, 4, 3(M), 5, and 6. The Air Force believes the planned sequence to be the smartest approach for a cost effective modification of Satellite 3 and a smart development of the new MDR payload.

Question. In fiscal year 1993, the Air Force is doing concept exploration for something called the Milstar Polar Adjunct. What is the polar adjunct?

Answer. The Milstar Polar Adjunct will be an essential adjunct to the four ball Milstar constellation which will provide polar coverage at less expense than the full six ball Milstar system. Because of the changing geopolitical environment, Congress directed the Air Force to restructure the Milstar program. The Air Force proposed and the Defense Acquisition Board approved in Oct 92 a satellite constellation change from six to four Milstar satellites and a to-be-defined polar adjunct. The four ball constellation provides low-to-mid latitude coverage, and the Milstar compatible polar adjunct provides northern latitude coverage. The Acquisition Decision memorandum (ADM) directed the Air Force to continue Polar Adjunct alternative studies for a Milstar compatible adjunct for assured, anti-jam, anti-scintillation, and low probability of detection/intercept connectivity for the polar region.

Question. In fiscal year 1994, the Air Force plans to begin Engineering Manufacturing Development of the polar adjunct. How much is included in the budget request for this contract award?

Answer. The Milstar Polar Adjunct program is on track towards a Defense Acquisition Board Milestone I review in FY94. The FY94 funding to support this activity is $15M. EMD is scheduled to begin in FY95.

Question. Although Milstar will be the most advanced communications satellite ever launched, alternative technology development has continued to move very quickly. Does the DOD have a block upgrade planned on Milstar to incorporate more advanced technology?

Answer. Insertion of new advanced technology has always been a goal of the Milstar program. The approved Military Satellite Communications (MILSATCOM) Architecture identified a potential opportunity to insert new technology after development of the initial Milstar II satellites. The Milstar acquisition strategy that was approved in October 1992 directed the development of the medium data rate (MDR) payload and the acquisition of Milstar II through satellite #7—with the anticipation that the Department could either then procure production satellites as a follow-on or insert new technology as part of a block change. The current MILSATCOM Program Review is once again examining the opportunities to incorporate more advanced technologies into the Milstar baseline.

Question. Whenever DOD does make a block change to Milstar, do you believe that it will be able to be launched on a medium launch vehicle or would it have to continue to be launched on the large and expensive Titan IV vehicle?

Answer. At some point, we feel confident that Milstar will be able to transition to a medium lift vehicle. The task is a challenging one, however. To fit the current design on a medium lift vehicle and meet existing requirements, we must reduce the weight of the Milstar II communications payloads by a factor of three to four. The smaller satellite may only be able to host one-half the number of antennas or require a new antenna design. The issues associated with this question are being reviewed by the Department as a part of the MILSATCOM Program Review. The review is evaluating the performance, cost, and risk implications of making such a change in the Milstar baseline.

Question. According to media reports, the Air Force tried to kill the entire Milstar program in fiscal year 1994 and it survived only because the Secretary of Defense directed the Air Force to restore the funds. Were these media reports accurate? Why did the Air Force try to kill the program? Is Milstar a low priority to the Air Force or the Department of Defense?

Answer. The media reports were only partially correct. As a result of the new fiscal reality of a declining budget, the Air Force proposed a reevaluation of the Military Satellite Communications (MILSATCOM) mission area. As the result of an internal review, the Air Force recommended a conceptual program which 1) continued the current Milstar funding for the first two satellites, 2) continued processed extremely high frequency (EHF) medium data rate (MDR) development, and 3) proposed changing platforms used beyond the Future Years Defense Program (FYDP). Ultimately, the Air Force was working toward a new processed EHF solution which would maintain Milstar-similar capability with a lower price tag. Milstar is not a low priority within the Department of Defense. Milstar is the Department's number one command, control, and communications (C3) program. The threat Milstar was designed to meet was recently reexamined and the Milstar features of flexibility, interoperability, low probability of intercept and detection, rapid deployment, and small terminals are exactly those required by today's smaller, CONUS-based military force.

GLOBAL POSITIONING SYSTEM

Question. The Air Force is currently developing a new generation of GPS satellites called "Block 2R" which will replace the current satellites as they begin to die in the late 1990's. One issue surrounding the Block 2R program is the need to be able to continue to operate through a nuclear exchange.

A. Has DoD resolved the nuclear exchange survivability requirement?

Answer. Yes. All requirements were resolved. Negotiations with the contractor for a satisfactory solution to the issue, which specifically involved continuous operation of nuclear detonation detection sensors carried aboard GPS satellites, were completed in December 1992. Contract modification action was completed in March 1993 to incorporate the negotiated equitable adjustment.

B. According to the budget justification material, the Block 2R design has slipped nine months, resulting in a first satellite launch in October of 1995. With the large slip in the satellite delivery, why did the Air Force recently award a Delta launch vehicle contract instead of delaying it until 1994 since the procurement is primarily to support the GPS Block 2R launches?

Answer. Since award of the Block 2R contract in June 1989, the launch of the first Block 2R satellite has been planned to occur in March 1996. The projected first launch date was adjusted forward for a time, in official planning documentation, to October 1995, but in December 1990, it was returned to the original March 1996 date. The procurement of Delta boosters is timed to support this GPS launch schedule. The satellite and launch vehicle program offices have been in continual contact, and the satellite delivery delay has been reflected in a delay in the launch vehicle contract award, originally planned in 1993. Long lead booster procurement to support the launch in March 1996 must begin in June 1994.

C. If the Block 2R development continues to slide, do you foresee the need to buy additional satellites of the current Block 2 vintage?

Answer. No. The Block 2 satellites are for all practical purposes out of production, though some are still being built under the multiyear contract awarded in 1982. The lead time to generate piece parts and subsystems for additional Block 2 satellites, plus the time for re-design where such components are no longer available, preclude procurement of additional Block 2 satellites as a realistic option. As a result, timely delivery of Block 2R satellites is essential to sustain the GPS constellation at the required signal availability level. No further delays are anticipated.

Question. The Air Force has met with the Department of Transportation concerning the GPS program. What is the purpose of these meetings?

Answer. The Department of Defense and the Department of Transportation have established a joint task force to review increased civil use of GPS. This task force will examine operational, technical, and institutional implications of greater civilian use. The task force is expected to complete its work by the end of 1993 and submit a written report to the Secretaries of both departments.

Question. Since the potential civilian use of GPS extends much broader than simply transportation-oriented functions, has DOD also meet with other civilian departments such as NASA, Interior, or Commerce to discuss their interests?

Answer. The Department of Transportation is the focal point within the Administration for civil use of GPS. However, federal departments have met with the DoD to arrange for access by their departments to the GPS Precise Positioning Service in support of their official government activities. Those departments and agencies include NASA, Commerce, Agriculture, Energy, and the DEA.

Question. Are any of these civilian departments considering paying for any significant aspect of the GPS program?

Answer. Not currently. However, the joint Department of Defense and Department of Transportation task force plans to address value-added changes to GPS. Any GPS augmentations to satisfy unique civilian requirements would be funded by the civil agencies.

Question. Given the critical military uses for GPS data, do you intend to share management, control, or design of the GPS system with any of the civilian departments?

Answer. The Department of Defense will discuss such issues with the Department of Transportation as part of a joint task force. The task force is expected to complete its work by the end of 1993. Actual recommendations would be available at that time.

SPACE COMMUNICATIONS ARCHITECTURE

Question. The Committee took this initiative because it appeared that civilian space communications technology was catching up to that of DoD. Does it appear that civilian commercial technology could be used for most of the routine DoD communications?

Answer. Commercial satellite technology can be used for most General Purpose (GP), routine communications, there is a wide variety of earth terminal sizes and types to provide optimal communications services for most routine users. A diverse set of C-band and higher power spot beam Ku-band satellites is available to support fixed satellite services. A combination of large fixed terminals, smaller terminals and VSATS can support most peacetime traffic requirements. Newer L-band mobile services are being offered with attaché case size terminals. Cost and regulatory factors will remain important considerations in determining the appropriate commercial role for DoD.

Question. Is there potential for saving significant amounts of money in the outyears by using off-the-shelf commercial technology rather than buying satellites with unique military specifications?

Answer. To date our analysis shows that adding extra capacity for General Purpose (GP) communications to military systems which were designed for war fighting requirements is less costly than building a new commercial architecture to meet the same GP requirements. Some new services can be provided by innovative commercial solutions highlighted in the Commercial Satellite Communications Initiatives (CSCI) project. Some commercial services may offer cheaper solutions to requirements currently satisfied by terrestrial systems.

Question. Another criticism that the Committee has consistently made is that there has been no general space communications architecture for DoD. Has the Military Satellite (Communications) Office completed coordination of such a review, including the increased use of civilian assets, and if so, what are the results?

Answer. The present Military Satellite Communications (MILSATCOM) architecture is an integrated architecture which includes both military systems and commercial communications services. Results of the CSCI study show that DoD can a) use existing commercial services more efficiently to save money, and b) take advantage of new commercial opportunities to satisfy DoD requirements. Consideration of increased use of civilian assets is part of the MILSATCOM Architecture Decision Opportunity process in which missions, risks and costs will be evaluated. Trade off alternatives involve the definition of a future SHF system and an increased use of commercial satellites.

Question. One area that offers potential savings and improved service is the transfer of certain large volume communications channels from satellites to ground and trans-oceanic fiber optic cables. Is the Military Satellite (Communications) Office looking at the possibility of reducing DoD's reliance on costly satellites and moving toward increased use of fiber optic cables?

Answer. Yes. The MSO recently completed an analysis of high volume communications channels on DSCS satellites, and is currently coordinating an off-load of 85 communications circuits from

DSCS to CONUS terrestrial and transoceanic fiber optic cables. This off-load will free about 100 megabits of bandwidth on all DSCS satellites for tactical users whose requirements can only be met by military satellites. The off-load of these circuits is contingent on the DSCS. The MSO is continuing to work with the Joint Staff on the Bottom-up satellite communications requirements review to determine if there are more commercial and military satellite communications circuits that can be moved to fiber.

Question. One of the more far reaching changes in commercial communications is the use of cellular phones. Several civilian firms are developing cellular systems that would use satellites. Would you briefly describe this concept and indicate to what extent DoD could make use of it?

Answer. The cellular satellite concept relies on a large number of low and medium earth orbit satellites to maintain continuous communications services. With a changing threat environment and third world crisis situation, a mobile hand held communications capability could be used extensively in remote parts of the world. This technology development is perhaps the most innovative and far reaching capability with great potential for DoD to use commercial satellite communications systems.

Question. The initial results of the commercial applications study appear encouraging. For the record, please provide a commercial implementation project milestone plan and the associated funding levels that would be required in fiscal year 1994 for the Military Satellite (Communications) Office to aggressively begin pursuing studies ranging from (1) changing the current DoD commercial lease strategy to (2) initiating CONUS based pilot projects to (3) developing a post-DSCS commercial architecture.

Answer. There are a number of related projects that can be implemented over time to effectively integrate new commercial services into the MILSATCOM architecture, and to enhance the existing methods by which the Department already uses commercial satellite communications.

To facilitate integrated commercial planning and protect future options for commercial services, all projects are scheduled to begin in FY 1994 and extend until their various completion dates. This building block approach incorporates three top-level milestones.

Milestone One begins with FY 1994 congressional support for CSCI Follow-On implementation projects. Identification of key user groups, implementation sites, and other activities to seed the commercial architecture will begin at this time. In addition, negotiations with host nations and international agencies regarding the future of commercially available services around the world will augment the initial U.S. based focus of Milestone One and open pathways for more elaborate development of commercial SATCOM services which are friendly to the Defense Information System Network infrastructure.

Milestone Two in FY 1995 will initiate the operation of U.S. based pilot projects for identified DoD user groups.

Milestone Three in FY 1996 marks the initiation of the commercial architecture framework. Previously completed pilot projects and demonstrations will have led to procurement decisions regarding the deployment of commercial products and services. Cost effective pilot projects will be expanded to new areas in the United States and overseas, beginning the building block process of a commercial sub-architecture into the next decade.

Funding requirements to support the milestones as outlined above are $15 million for FY 94 and FY 95 funding to be determined based on the experience gained on the pilot efforts in FY 94.

FOLLOW-ON EARLY WARNING SYSTEM

Question. How confident are you of the current schedule?

Answer. The current FEWS schedule has already taken into account the slip in award of the Demonstration/Validation contracts. The schedule has a down-select in the spring of 1994 and a Milestone II DAB in June 1994. The Demonstration/Validation contracts will finish in July and we anticipate being ready to award the single Engineering and Manufacturing Development contract in August. We have learned from the delays at Milestone I and from awarding our last set of contracts. Specifically, the review process prior to awarding contracts was new within the DOD and has been improved as a result of the excessive delays to FEWS and a number of other programs. We believe the current FEWS schedule is achievable; and we know that progress in the Demonstration/Validation phase has been very good.

Question. How much of the $214,794,000 requested in fiscal year 1994 is for completion of the demonstration and validation phase and how much is for award of the Engineering and Manufacturing Development contract?

Answer. Of the $214.794M budget request for FY94, $152.0M will go toward completion of the Demonstration/Validation contracts and $12.0M will go toward award of the single Engineering and Manufacturing Development contract. The planned amount for EMD contract award has been decreased to allow continued emphasis on related technology efforts. The remainder of the funds will be used to continue technology support efforts and to operate the FEWS program office.

Question. The Committee has consistently directed that DoD emphasize the tactical contributions that FEWS can make by providing downlinks to tactical commanders, warning them when tactical missiles such as SCUDS have been launched. What are you doing to ensure that the new system complies with this guidance?

Answer. The ability to provide warning messages faster, and to provide them directly to tactical commanders is a core capability of the FEWS program. The warning timeline for initial messages is spelled out explicitly in the Operational Requirements Document, and the requirement for direct warning messages on a worldwide basis is also explicitly spelled out. This was a part of the program when we awarded the two contracts in July 1993, and both contractors confirmed their ability to meet these requirements during System Requirements Reviews in February 1993. The capability to pass faster warning messages directly to the tactical commanders will be confirmed again in January 1994 with design reviews as the Demonstration/validation phase comes to a close.

Question. What is the status of the certification and FEWS outyear funding?

Answer. The FEWS program was fully funded in the FYDP years with the FY94 President's Budget submission to Congress. The Acting Assistant Secretary of Defense for C3I submitted a letter to the Appropriation Committees on March 17 which stated the program is fully funded. It also noted that since the Department of Defense is reviewing the entire DOD budget for FY95–99, the desired certification is premature. In the meantime, the FEWS program is being continued on a month by month basis, with funding at about $22M per month. The DOD budget review process is continuing, with the Bottom-Up Review nearly complete. As of today, the FEWS program remains fully funded for the FYDP years in the DOD budget.

Question. Specifically how does the projected capability for tactical and strategic warning compare with the current DSP?

Answer. Warning from FEWS will be significantly better than from the current DSP, even when we account for the improved ground processing of DSP data from a system like Talon Shield. For strategic warning, where the threats are bright and boost for a relatively long time, either system has a high probability of detection. ———.

The main difference for strategic warning then is that the faster revisit rate and increased sensitivity of FEWS allows the system to detect a target sooner in flight, and to validate the threat and send out a warning message faster than DSP. Thus, FEWS will provide faster strategic warning, ——— and will provide more accurate impact estimate information at the earlier report time.

The same factors apply for the comparison of FEWS and DSP toward providing tactical warning, however there are additional DSP limitations which FEWS will overcome. Many of the tactical missile threats deployed today and expected in the future stress the DSP capabilities or simply exceed its capability to provide useful information. Because the flight times for the shorter range tactical missiles are shorter, the faster warning time from FEWS becomes even more important. In addition, the tactical missile threats have shorter booster burn times and burn with less intensity. The fixed revisit rate and relatively high sensitivity threshold preclude DSP from detecting and tracking many of the theater missiles with high confidence. On top of that, since the satellites are equatorial, their performance drops off for launches that occur at higher latitude. ———.

FEWS provides significant improvements in all of these areas to provide high confidence of detecting the theater threats and to provide more timely and more accurate information to allow the tactical commanders to take defensive and offensive actions.

DEFENSE SUPPORT PROGRAM (DSP)

Question. The Defense Support Program (DSP) is the satellite system which provides the primary method of missile warning and surveillance for both strategic and tactical threats. The fiscal year 1994 budget for the space segment of DSP is $459.1 million in procurement and $66.8 million in R&D. Discuss the status of the present on-orbit DSP constellation and the launch schedule for the present multi-year block of DSP satellites.

Answer. ———.

Question. The Air Force is currently developing a new system called FEWS to replace DSP. Why is it necessary to provide over half of a billion dollars in fiscal year 1994 for DSP?

Answer. A significant level of funding is required in fiscal year 1994 for DSP because the space-based warning mission, vital to national security, must be sustained through at least the middle of the next decade when FEWS comes on line. Of the funding requested for DSP, $361 million is for satellite procurement alone. To sustain the mission, the Air Force must procure and launch satellites, resolve satellite anomalies, modernize the ground stations, resolve ground station deficiencies, and operate and maintain the ground stations.

Question. When do you plan the first launch and when will you reach the full operational capability with the system?

Answer. The first FEWS launch is planned for ——— with successive launches about every 12 months until the full constellation of ——— satellites is established in ———. This assumes launch successes and successful deployment, checkout, and operation of the new satellites. If any problem occurs in operation of the initial satellites, there will be replacement satellites available on one-year centers.

Question. Could some of the funding be shifted to FEWS to accelerate deployment of the later generation of technology?

Answer. We have looked at accelerating FEWS before and we'd like to accelerate if we can, however we estimate a one year acceleration of FEWS would increase FYDP costs by approximately $1 billion. To move this level of funding from DSP would eliminate all three satellites (#23–25) from the multiyear procurement; we need those satellites to get through the transition from DSP to FEWS.

Question. For the record, please identify all DSP funding, by appropriation, for fiscal years 1993, 1994, and 1995, indicating how much is allocated to which satellite, etc.

Answer. Detailed information on fiscal year 1995 funding will be available with this summer's submission of the DOD FYDP for fiscal years 1995 through 1999. In fiscal year 1995, we plan to continue the multiyear procurement of satellites 23–25 by procuring sensor #24, spacecraft #23, and additional advance procurement. We also plan to continue modernization of the ground system. DSP funding for fiscal years 1993 and 1994 is as follows:

[In millions of dollars]

Appropriation	Fiscal year 1993	Fiscal year 1994
Missile procurement	$242.9	$459.1
Other procurement	45.1	38.6
RDT&E	49.1	66.8
Operations and maintenance	56.8	71.5
Military personnel	37.0	35.0

Only the Missile Procurement appropriation contains funding which is DSP satellite dependent. Of the Missile Procurement funding in FY 1993 and FY 1994, the breakout by satellite is as follows:

[In millions of dollars]

Satellite	Fiscal year 1993	Fiscal year 1994
18	$21.1	
19	44.0	
20		$37.3
23	62.4	220.5
24	12.6	38.5
25	9.7	32.9
Other	93.1	129.9
Total	242.9	459.1

NAVY UHF COMMUNICATIONS SATELLITES

The Navy is requesting a total of $159.8 million in fiscal year 1994 for continued procurement of Ultra High Frequency communications satellites. The Navy recently lost one of these satellites when it was placed into the wrong orbit due to an ATLAS launch vehicle failure.

Question. Who has to pay for building a replacement satellite and launching it?

Answer. Under the Navy's innovative acquisition contract for this program, which was modeled on a commercial-type procurement, the contractor is required to reimburse the Government for the cost of the lost satellite. Given the ability to use the FY 1988 and 1989 funds returned to the Government under the terms of the contract, Navy will pay for a replacement satellite. However, use of these funds raises complex legal issues that are currently being reviewed by the General Counsels of both ASN(RDA) and ASN(FM).

Question. What will be the operational impact of the failure?

Answer. The impact of the failure is difficult to assess. One of the two satellites required in the Indian Ocean region has failed. Furthermore, the health of the remaining constellation of satellites is very fragile. The LEASATs over the Pacific and over CONUS each have a failed wideband transponder, resulting in a 30 percent reduction in capability.

Question. Will the Navy request any additional funds above the $159.8 million requested due to the launch failure?

Answer. It is Navy's intention to replace the failed UHF FOLLOW-ON satellite. We will also satisfy Congressional direction to incorporate EHF onto UHF FOLLOW-ON satellites by replacing the failed UFO satellite, which was UHF only, with a satellite having both UHF and EHF capability. Navy believes a replacement with EHF can be acquired with no funds above those returned to the government as a result of the satellite failure. If additional funding is required, the request will be made at a later date.

Question. Specifically what will the fiscal year 1994 request be used for?

Answer. The fiscal year 1994 request is for payments on launch services of UFO satellites one through nine.

METEOROLOGICAL SATELLITES

Question. DoD and Commerce have had recent discussions about better coordinating meteorological programs. a. What has been the result of these discussions? b. Why can't the U.S. Government develop a single satellite program that meets both civilian and military requirements?

Answer. a. On eight occasions since 1972, the DoD and Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) have studied and implemented methods to increase coordination and avoid unnecessary duplication in their respective polar-orbiting environmental satellite programs. We have recently joined with NOAA in another study designed to examine the possibilities for achieving cost savings through further integration of all or parts of the Defense Meteorological Satellite Program and NOAA's Polar-orbiting Operational Environmental Satellite Program (POES). The study will culminate with a report to senior officials of the agencies involved in December 1993.

b. The ongoing study will include an analysis of DoD and DOC requirements and architectures to determine if there is merit in considering a single program. As you know, any common program would have to ensure that national security requirements would be met.

Question. For the record, please provide a breakout of any DoD fiscal year 1994 funds being requested by appropriation and include the projected outyear costs as well.

Answer. The breakout of FY 1994 funds are as follows: $32.0 million (RDT&E) and $53.0 million (procurement).

LANDSAT PROGRAM

Question. The system requirements review and system design review are both scheduled for this year. Is the program progressing on schedule and within cost?

Answer. Yes; the LANDSAT 7 program successfully held its system requirements review on 18–19 May 1993. The system design review is planned for December 1993. We are still expecting LANDSAT 7 to be available for a launch early in CY 98.

Question. NASA will operate LANDSAT 7 once it is launched. The Committee included language last year that directed termination of the program on May 1, 1993 if NASA did not restore $15 million to its share of the program funding.

a. Is the NASA program fully funded for fiscal year 1993?

Answer. On March 30, 1993, the House and Senate appropriations subcommittees approved the reprogramming of monies to restore the fiscal year 1993 funds necessary for the LANDSAT 7 program.

b. How much is included in the NASA budget for fiscal year 1994 and does that fully fund their program requirements?

Answer. The President's fiscal year 1994 budget contained the full amount NASA requires to fund the baseline program. Support for an additional, high resolution, multispectral, stereo imager (HRMSI), an improved sensor for LANDSAT 7, is high on the priority list for NASA funding from technology initiative funding, following efforts to redesign the space station.

Question. Are any funds budgeted in fiscal year 1994 to begin technology development for a follow-on to LANDSAT 7?

Answer. Pursuant to Public Law 102-555, "The Land Remote Sensing Policy Act of 1992", National Space Policy Directive 5, "LANDSAT Remote Sensing Strategy", and the DoD/NASA Management Plan for the LANDSAT Program, the DoD is engaged in technology development and demonstration efforts with the goal of reducing the cost and improving the performance of a future, multispectral imaging system. $5.8 million was spent in fiscal year 1993 for this purpose; $11.7 million in fiscal year 1994 funding is programmed.

CAMEO PROGRAM

Question. APRA has requested $15 million to begin a program called CAMEO that explores the use of multispectral space technologies that could be applied for a follow-on to Landsat. Specifically how does DoD plan to use the technology in conjunction with Landsat?

Answer. The CAMEO program will develop, integrate and space-demonstrate selected advanced, multispectral sensing technologies that would support the transition from Landsat 7 to a greatly improved, lower cost Advanced Land Remote Sensing System (i.e., Landsat follow-on). Specifically, space-demonstration of emerging advanced technologies—such as lightweight optics, high performance focal plane assemblies, high-speed digital processing, bandwidth compression integrated circuits, etc.—will prove the feasibility of useful small satellite implementations to meet a subset of high-priority DoD, civil and commercial space system requirements and illustrate potential performance improvements applicable to future land remote sensing systems.

Question. The National Landsat Policy Act of 1992 authorizes the Secretaries of Agriculture and Interior "to conduct programs of research and development in the applications of remote sensing using funds appropriated for such purposes." How much will the Agriculture and Interior Departments contribute to the CAMEO demonstration?

Answer. The civil agencies mentioned above have ongoing research and development (R&D) activities focused on developing new applications technologies/techniques for exploiting available satellite- and aircraft-derived data more efficiently, accurately and rapidly to support existing or new agency missions. This R&D focus need not change. The Departments of Agriculture and Interior will be expected to participate in the CAMEO demonstration by sponsoring the exploitation of CAMEO data consistent with the needs of the particular agency. It is impossible and premature to quantify the specific contribution these agencies might make toward CAMEO data exploitation R&D at this time.

Question. That Act also states that the technology demonstration program "may be carried out in part with private sector funding." How much in matching funds has ARPA lined up for the CAMEO program?

Answer. ARPA, with the help of industry, has formulated a unique blueprint for achieving full commercialization of the remote sensing industry using a phased approach that safeguards national security interests and minimizes private investment risk. Government funds will be used to develop the higher cost, high risk CAMEO satellite capability. Industry, on the other hand, has expressed the willingness and ability to fund the development of the data distribution and value-added infrastructure to commercially exploit CAMEO-derived data. Teaming arrangements among companies are currently being explored to support the formation of regional remote sensing enterprises. The specific industry contribution depends on Congressional appropriation of funds for the CAMEO program and the number of regional enterprise consortia that are finally established. The focus of the CAMEO space segment is on innovative multispectral sensors. Thus, the risk is fairly high and significant industrial funding during the development phase is not anticipated. If successful, the build and launch of subsequent CAMEO-like remote sensing satellites would be well within the reach of privately-funded ventures, thus completing the commercialization process.

Question. The Landsat Act also states that any technology demonstration program shall be coordinated with the Landsat Program Management. Did the Defense Support Project Office which manages Landsat for DoD develop or approve the ARPA CAMEO proposal?

Answer. In fiscal year 1992, the Director, Defense Research and Engineering, in coordination with the Assistant Secretary of Defense for C3I, approved the CAMEO program. The CAMEO program was originally formulated in consultation and coordination with the Defense Landsat Program office and the Defense Support Project Office. CAMEO, together with the Advanced Technology Standard Satellite Bus (ATSSB), is intended to satisfy Public Law 102–555, the National Landsat Policy Act of 1992, which mandates an advanced technology demonstration in space by 1997.

DEFENSE SATELLITE COMMUNICATIONS SYSTEM FOLLOW-ON

Question. What is the status of these architecture studies for a follow-on system?

Answer. A Request for Proposal was solicited through the Commerce Business Daily and responses are expected soon. After a thorough evaluation, three or four successful bidders will be selected and contracts are planned to be awarded in September, 1993. The duration of the contract is one year.

Question. How much is in the FY 1994 budget for such a follow-on system?

Answer. The 1994 budget for these studies (the peak year) is $13.5 million. Part of these funds are provided through Nunn funding to support an international cooperative program with the UK and France for the study of the use of SHF satellite technology and systems. The cooperative program should reduce follow-on program costs and should enhance interoperability. FY 1994 funds will also be used to study national alternatives for comparison purposes.

ADVANCED TECHNOLOGY STANDARD SATELLITE BUS (ATSSB)

Question. In fiscal year 1994, ARPA is requesting $9.0 million to begin development of the Advanced Technology Standard Satellite Bus. What is the primary purpose of this technology demonstration?

Answer. The Advanced Technology Standard Satellite Bus (ATSSB) program will prove that satellites can be built more rapidly and affordably, combining high performance with common industry standards to: (1) achieve a 100 percent improvement in payload mass fraction, enabling satellites to carry more mission capability; (2) accommodate a wide range of operationally useful payloads in low earth to geosynchronous earth orbits on a low-cost common bus; and (3) significantly shorten the time to produce satellites through the use of a simple "bolt-on" payload interface. The ATSSB design will be scalable to extend these benefits to larger satellites. However, concentrating on the smaller common bus is the stressing case from a technology development standpoint. The use of small and large common bus satellites, across multiple constellations, is expected to save billions in life-cycle costs. In addition, ATSSB will demonstrate the important dual role that smaller, capable satellites can serve in operational scenarios; namely, technology insertion for routine, lower cost architecture modernization and, simultaneously, capability augmentation of larger backbone satellites.

Question. Use of a common bus on satellites could conceivably save money and reduce satellite development time. However, it appears that such a policy could be implemented simply at the direction of the Secretary of Defense. Why is it necessary for ARPA to spend money for a demonstration when it would appear to be a policy and management problem, not a technology problem?

Answer. The successful fielding of a common bus satellite is not simply a policy issue. The development challenge is to minimize the overhead weight penalty usually associated with a suboptimized design, while maintaining a high level of performance, reliability, configuration commonality and low cost. Simultaneously achieving these attributes mandates the incorporation of emerging advanced space technologies, such as composite structures; high efficiency power generation; lightweight, power-efficient electronics, RF components, processors, sensors and actuators; and an entirely new satellite packaging and thermal design approach. The ARPA demonstration program is, therefore, crucial for validating the required technologies/concepts as a major risk reduction prior to committing its use in a major system acquisition. Conversely, directing the development of a common bus satellite, prematurely, in a major acquisition program would likely precipitate the use of older, less risky technology. This could seriously compromise the achievement of a true common bus capability having high payload mass fraction and the beneficial attributes noted above.

SPACE NUCLEAR THERMAL PROPULSION PROGRAM

Question. The Defense Appropriations Act for fiscal year 1993 requires that no less than $55 million be obligated for the Space Nuclear Thermal Propulsion Program. How much has been obligated to date?

Answer. To date, no fiscal year 1993 funds have been obligated for the Space Nuclear Thermal Propulsion Program.

Question. With clear bill language requiring that these funds be spent only for the Space Nuclear Thermal Propulsion Program, why is the Air Force not complying with the law?

Answer. The Air Force cannot sustain the program within the declining budget, and after attempting to transfer it to DOE and/or NASA, has zero funded it in FY94. This action was taken because the capability represented by SNTP is more applicable to NASA missions (outside Earth's orbit) than DOD. DOD requirements can be met by conventional stages at roughly half the cost and schedule with substantially less risk. The Fiscal Year 1993 Defense Appropriations Act (Public Law 102-396, dated Oct. 6, 1992) states "* * * *Provided further,* That not less than $55,500,000 of the funds appropriated in this paragraph shall be made available only for the Space Nuclear Thermal Propulsion Program * * *" This language means that the funds are available for the SNTP program only and may not be spent for any other purpose. The fact that the Air Force has not yet obligated any of these funds does not constitute a failure to comply with this provision. In the event the Air Force decides not to spend some or all of the SNTP funds, a proposed recission will be submitted for such an amount.

SOLID ROCKET MOTOR UPGRADE

Question. Last year the Committee included a general provision directing the Air Force to resolve several outstanding contractual issues between the Air Force, the prime contractor and the subcontractor which produces the Solid Rocket Motor Upgrade. The bill language requires the contract revisions to be completed prior to March 1, 1993. What remains to be completed?

Answer. The general provision directed a supplemental agreement including four elements. The four elements were: (1) payment of deferred amortization, (2) payment of working capital adjustments, (3) conversion of the subcontract from firm-fixed price to fixed-price incentive, and (4) removal of concurrency between development and production. In addition, the general provision required two more actions: (1) slowdown of the Solid Rocket Motor Upgrade (SRMU) production rate and (2) settlement of claims between the prime contractor and subcontractor. Of the total of six actions required, we have completed contracting for three of them: (1) conversion of the subcontract from firm-fixed price to fixed-price incentive, (2) removal of concurrency between development and production, and (3) slowdown of the SRMU production rate.

We are still working to provide funding for the remaining three actions required by the general provision. Those three are: (1) payment of deferred amortization, (2) payment of working capital adjustments, and (3) settlement of claims between the prime contractor and subcontractor.

Question. When will the reprogramming be submitted?

Answer. The Air Force has already submitted the reprogramming request to the Department of Defense Comptroller. The

Comptroller is reviewing the request to determine if reprogramming is required or if, under the terms of the FY93 Appropriations Act, the Department has adequate authority to fund the Solid Rocket Motor Upgrade (SRMU) restructure without seeking formal Congressional approval. Depending on the results of the Comptroller's review, we anticipate either the request for reprogramming or notification to Congress by the end of June.

Question. The current contract calls for the purchase of 15 rocket motors. Do you anticipate that additional rocket motors will be required beyond these 15?

Answer. Yes.

The current contract includes 41 Titan IV vehicles, of which 26 have the older, steel-case solid rocket motors (SRMs) and 15 have the newer Solid Rocket Motor Upgrades (SRMUs). Our current requirements show a need for up to 24 more Titan IV launches (above the 41 currently on contract) through the year 2005. We plan to begin procurement of the additional Titan IVs starting with advance buy funding in FY95 and full authority in FY96. Our current intentions are to buy SRMs for the additional Titan IVs.

Question. If you do acquire additional solid rocket motors, do you plan to have an open competition for them?

Answer. We have not yet made any formal determinations about competition for future procurements. We would need a formal determination before we could conduct the procurement without open competition. In order to make the determination, we would have to consider the ability of other manufacturers to meet Titan IV requirements for solid motors. Since we are not aware that other manufacturers could meet our needs for SRMUs, we anticipate we would continue with the current SRMU supplier for future Titan IV procurements. However, our final decision will be based on a thorough review of requirements and capabilities and will be consistent with statutory and regulatory requirements for competition.

MEDIUM LAUNCH VEHICLES

Question. The Air Force recently announced the contract award for additional Delta Medium Launch Vehicles. How many vehicles will be purchased?

Answer. The recently awarded MLV III contract for Delta II launch vehicles to launch GPS IIR satellites provides annual option exercises for procuring one to six launch vehicles. The current procurement plan for fiscal years 1994 through 1999 is 2–3–4–6–5–5 for a total of 25 launch vehicles.

Question. The primary reason for acquiring these additional Deltas is to launch the new generation of Global Position System satellites called "Block 2–R" beginning in 1996. How much is budgeted in fiscal year 1994 for this contract?

Answer. Fiscal year 1994 funding includes $116.5 million of weapon system funding for procurement of two launch vehicles and advance procurement funding for long-lead materials for three vehicles, with the planned procurement of the three vehicles in fiscal year 1995. Fiscal year 1994 research and development funding is $8.8 million for payload mission integration, continuing site activation and logistics support analysis.

Question. Development of the ground control software for the GPS follow-on is encountering delays and cost overruns. If it appears that the launch date of the first satellite will slip beyond 1996, can acquisition of the Delta launch vehicles be delayed as well?

Answer. The recently awarded MLV III contract for Delta II launch vehicles provides for annual procurement option exercises for procuring one to six launch vehicles. For the pre-priced options to remain effective, terms and conditions of the contract require that an annual option be exercised each year for advance procurement for at least one launch vehicle. The current procurement plan for fiscal years 1994 through 1999 is 2–3–4–6–5–5 for a total of 25 launch vehicles. This schedule could be slowed, if the GPS follow-on was delayed, however the ground control software is on schedule to support the 1996 launch needed to retain the on-orbit capability of the GPS constellation. We therefore do not plan to delay the procurement of the launch vehicles.

HYBRID ROCKET MOTORS

Question. What are the advantages and disadvantages of using Hybrid rocket motors?

Answer. The advantages of hybrids are they provide a flight abort capability similar to that of liquid rocket motors, they offer operational handling simplicity over solid rocket motors, and they are inherently safer in that the motors are inert, may be less expensive to produce than solids, and are environmentally clean. The disadvantages are that they provide less performance than similar size solids, they are more technically complex, and there are risks associated with scaling up to larger-class motors.

Question. Why has DoD not used hybrids?

Answer. DoD has chosen not to use hybrids to this date due to the fact that there has not been a concerted effort to reduce the technical risks and because of the performance shortcomings. However, we have been following the technology more closely over the last two years, specifically the work accomplished by the American Rocket Company (AMROC). Although we are not currently funding any effort in hybrids, we are providing technical assistance to NASA in its Hybrid Propulsion Technology efforts and are considering a separate arrangement with AMROC to complement its current efforts.

Question. As new launch vehicles such as Spacelifter are acquired, will hybrid rocket motors be considered?

Answer. Yes. The Air Force plan for the concept definition phase for Spacelifter will consider all types of rocket motors, liquids, solids, and hybrids.

PEGASUS AND TAURUS SMALL LAUNCH VEHICLES

Question. What is the status of Pegasus and Taurus?

Answer. ARPA conducted the first two experimental flights of the Pegasus Air-Launched Space Booster on April 5, 1990, and July 17, 1991. A Memorandum of Agreement with the Air Force called for transition of the Pegasus program to Air Force Space and Missile Systems Center following the first two flights; this transition occurred in April 1993. Following transition, the Air Force conducted the third Pegasus mission for the Department of Defense on April 25, 1993.

The prime contractor for the Pegasus booster is Orbital Sciences Corporation. The four Pegasus launch missions thus far (three for DoD and one for a commercial customer) have delivered their payloads to orbit. The Pegasus development program was conducted as an aggressive, streamlined R&D effort by ARPA. This innovative R&D program resulted in the history-making first flight of the novel air-launched booster in the unprecedentedly short span of about two years after contract initiation. The cost to the Government for the first two ARPA-sponsored missions was approximately $20 million, including range support; the contractor's investment in the R&D effort was approximately $50 million. The Pegasus program epitomized the emerging new trends in defense acquisition, including dual-use technology development with Government/industry cost sharing, reduced documentation, prudent but streamlined testing in all aspects of the program except those involving safety issues (for which comprehensive testing was conducted), and reliance on commercial parts and practices where feasible. Overall, the Pegasus development was an extremely successful program for both the Government and industry, for which the contractor team received a National Medal of Technology. The ARPA-style R&D effort resulted in a win-win outcome in which DoD and NASA now have access to relatively low-cost launch capability at the lower end of the spacecraft size spectrum, and a new U.S. rocket has been made available for affordable commercial space ventures.

The first two ARPA-sponsored launches of Pegasus placed a total of nine small satellites into orbit. All of these nine spacecraft successfully performed the mission for which they were designed. Thus, Pegasus Flights 1 and 2 must be judged to have been successful overall. However, they were not perfect missions since anomalies occurred on both of these first two experimental flights, resulting in final orbits that deviated from the target orbits. Those anomalies must be viewed from the perspective of successful delivery of all payloads to orbit; the extremely fast-paced, low budget development program; and the simple fact that these first launches provided a proof-of-principle demonstration of the novel air-launched space booster concept. The Pegasus legacy is an outstanding example of the high-risk/high-payoff characteristics of an ARPA program in which perfection of an advanced technology product results from aggressive initial experiments that balance technical risk against cost and schedule. Perfection can not be expected on the first trial of a radical, new system, but a final total quality product can be achieved at minimal cost and schedule from the lessons learned in the initial pathfinding demonstrations. Pegasus represents a role model program for defense R&D.

Today, the original ARPA contract has transitioned to the Air Force and one of the remaining launches has already been conducted. That mission, as well as the commercial launch conducted in February 1993, resulted in highly accurate final orbits, proving that the corrective actions taken after the ARPA pathfinder experiments resulted in a top quality final product. It should also be noted that Pegasus was independently chosen by both NASA and the Air Force on recent procurements for small launches. The Taurus ground-launched Standard Small Launch Vehicle is presently in final integration and testing, and the first mission is expected to occur before year-end. Taurus leverages Pegasus-derived subsystem technologies, and is being conducted as a streamlined R&D effort with a predicted total cost to the Government for development and first flight of approximately $18 million, including range support. Taurus will achieve unprecedented efficiency (measured in dollars per pound of payload to orbit) for a small space booster.

Question. What steps is DoD taking to provide for developing competition for small launch vehicles to keep costs down and to ensure access to space for small payloads?

Answer. ARPA has "primed the pump" of the small satellite and launch vehicle industries by competitively soliciting demonstrations of affordable launch vehicles and by invigorating the incipient small satellite industry with technology development capital. A vibrant small booster industry can only exist if there is market demand from an associated small satellite industry. In this regard, ARPA sponsored demonstrations of small "lightsats" to support defense applications, and dozens of technology development projects have made substantial impact on creating the technological foundation for the requisite market demand to stimulate competition in the small launcher industry. The spacecraft technology projects have been vital to enhance the capabilities of small satellites, thereby increasing demand for such systems by scientific research groups, commercial space enterprises and defense and other Government users. In this sense, the return on investment by ARPA in small satellites and launchers represents a far greater return to the national economy than simply the applications coming from the defense sector. The upshot of the ARPA space initiatives is a competitive environment that will help to ensure access to space for small satellites and to keep costs down for both small launchers and their payloads.

CENTAUR UPPER STAGE

Question. What were the problems that caused the two Centaur failures and what has been done to fix them?

Answer. Both Centaur failures have been attributed to a check valve on the Centaur rocket engine which failed to close before liftoff, thus allowing air to be ingested into the engine during the Atlas boost phase. This air solidified in the first stage of the liquid hydrogen pump, preventing the engine turbo pump from rotating—thus, the failure(s). The first failure was initially attributed to a foreign object in the engine but is now believed to have been this problem also.

The problem has been addressed by (1) adding a solenoid isolation valve in the helium chill down system; (2) revising the liquid helium chill down to maintain turbo machinery temperatures above liquid nitrogen temperatures; and (3) protection of the engine and propellant systems from intrusion of contamination.

Centaur Upper Stage has subsequently been flown successfully following above modifications.

Question. What DoD payloads will use the CENTAUR?

Answer. Currently the only DoD payload that will use the CENTAUR upper stage is MILSTAR. A future possibility could be the DSP follow-on.

PARAFOIL LAUNCH VEHICLE

Question. Is DoD familiar with this rather creative launch concept. (re: parafoil launch vehicle)

Answer. ARPA sponsored some of the early work on the parafoil launch vehicle concept, and is well acquainted with this launch concept.

Question. Are any funds included in the fiscal year 1994 budget for this program?

Answer. ARPA does not have funds identified in the fiscal year 1994 budget for parafoil launch vehicle work. An extensive review of this technology was conducted by ARPA in 1990–1991, including technical risks and maturity of current technologies required for this concept, projected developmental costs and potential utility for defense applications. This review concluded that defense utility is not sufficiently high to warrant the sizable investments over many years that would be required to develop the technology to the point of a full-scale space-based operational demonstration.

LAUNCH FACILITY IMPROVEMENTS

Question. For the record, please lay out a complete listing of the specific projects that need to be funded showing the amount, the appropriation, the fiscal year, and location?

Answer. In 1992 the Air Force developed a Space Launch Infrastructure Investment Plan (SLIIP). In the SLIIP, we defined Space Launch Infrastructure to include the space launch bases, the space launch ranges, the current space launch vehicles, and the current space launch facilities. As part of the SLIIP, a prioritized list was developed covering most important investments in the current infrastructure required over the next several years. Three investment categories have been identified. Category 1 represents essential investments required to enable operations to continue. Category 2 contains those investments needed to improve reliability and efficiency. Category 3 investments are opportunities for product improvement. The current budget only requests funds for Category 1 items. A summary of the items in each category follows:

CATEGORY 1, REQUIRED TO MAINTAIN OPERATIONS

[In millions of dollars]

	FY90–93	FY94	FY95	FY96	FY97	FY98	FY99
Facility Repair/Replacement:							
E Range (33000)	29.0	7.9	5.1	0	2.5	0	0
E Range (34000)	43.9	11.7	11.1	12.5	30.3	0	0
W Range (33000)	21.6	20.6	9.2	0	0	0	0
W Range (34000)	54.9	8.3	11.6	13.1	2.1	0	0
Range Standardization and Automation:							
(3080)	54.3	52.0	82.7	43.7	63.3	52.4	8.2
(3680)	0	50.8	47.1	58.9	37.9	38.1	39.3
Tital IV Safety Upgrades (3600)	38.9	74.9	27.5	0	0	0	0

CATEGORY 1, REQUIRED TO MAINTAIN OPERATIONS—Continued

[In millions of dollars]

	FY90–93	FY94	FY95	FY96	FY97	FY98	FY99
Delta II Safety Upgrades (3600)	0	9.0	5.0	0	0	0	0
Solid Motor Storage Building (3300)			6.0	0	0	0	0
Centaur Processign Facility:							
(3300)	57.0	0	0	0	0	0	0
(3600)	4.5	10.3	5.5	3.0	0	0	0
(3020)	0	2.5	10.5	0	0	0	0
Titan IV Lightning Protection (3600)	0	12.5	0.8	0	0	0	0

CATEGORY 2, INCREASED RELIABILITY AND EFFICIENCY

[In millions of dollars]

	FY90–93	FY94	FY95	FY96	FY97	FY98	FY99
Items funded in the FY 94–99 budget:							
Medium Launch Vehicle Performance Upgrades (3600)	0	8.0	6.0	0	0	0	0
Items not funded in the FY 94–99 budget:							
Range Standardization and Automation (3080)	0	0	8.3	103.1	98.1	67.5	106.4
Titan IV Reliability Upgrade (3600)	0	28.0	51.6	19.6	10.2	0	0
Medium Launch Vehicle Performance Upgrades	0	0	7.0	0	0	0	0
GN2 Pipeline at Cape Canaveral (3080)	0	15.0	15.0	10.0	0	0	0

CATEGORY 3, PRODUCT IMPROVEMENT

[In millions of dollars]

	FY90–93	FY94	FY95	FY96	FY97	FY98	FY99
Items not funded in the FY 94–99 budget:							
Range Standardization and Automation (3080)	0	0	0	0	0	15.0	5.3
Titan IV Enhancements (3600)	1.9	1.9	0	0	0	0	0
Medium Launch Vehicle Performance Upgrades	0	16.2	17.8	16.3	20.0	10.0	20.0
West Coast Atlas Pad Logistics (3400)	0	24.2	12.7	43.0	11.1	28.3	29.0

SPACEPORTS

Question. In fiscal year 1993, $10 million was provided to the Air Force to establish a grants program for public or private entities engaged in the development of space launch facilities. Has the grant been established?

Answer. The Air Force interpreted the direction to allow grants to be awarded to both public and private entities. The Air Force stated its intent to allow both public and private entities to apply for grants in its program implementation plan provided to Congress on 12 Mar 93. After announcing the availability of the $10M in a Commerce Business Daily notification on 08 Apr 93, the Air Force expects to receive grant applications on 03 Jun 93. After completing a technical review, the Air Force anticipates awarding grants by the end of July 1993.

Question. From time to time, it is suggested that DOD should pay a bigger role in the development of civilian space ports as alternatives to the military ones used in Florida and California. Does DOD have any requirement for the development of civilian spaceports?

Answer. The existing DOD launch sites can accommodate all DOD requirements and have some excess capacity that we make available for commercial use. Unless a decision is made to replace infrastructure vs repair or upgrade, we have no requirement to development a new spaceport.

Question. How much is included in the fiscal year 1994 budget for such efforts?

Answer. The Air Force FY94 budget request includes no funding to develop civilian space ports.

SPACE ENERGY LASER (SELENE) STATION

Question. The Committee is aware of a proposal to construct a Space Energy Laser (SELENE) Station at the Naval Air Warfare Center at China Lake, California to use a ground laser to power orbiting satellites. What would be the purpose of such a project?

Answer. Project SELENE offers two potential long-term payoffs.

(A) First, SELENE offers spacecraft developers an improved power source for on-orbit support. Spacecraft development is constrained by the amount of on-orbit power a spacecraft can produce. Typically, solar cell power sources are used to provide up to several kilowatts of power, but large solar arrays are mechanically complex and expensive. Solar arrays must be built large to meet end-of-life power requirements after serious degradation in a high radiation space environment, and to support high charging rates for batteries before a spacecraft enters eclipse areas during orbit. Project SELENE proposes to illuminate solar arrays using a ground-based free electron laser to provide high power levels to solar arrays in eclipse or to boost solar array output near end-of-life. Using SELENE lasers, spacecraft could deploy with smaller arrays and light-weight spacecraft could potentially save development and launch costs.

(B) Propulsion from low earth orbit to geosynchronous orbit is an expensive element of the overall launch cost, and one subject to occasional reliability problems. Current technology ion thrusters, which are extraordinarily reliable but power-hungry, can thrust a satellite to geosynchronous orbit in a matter of weeks using electric power and a small gas reserve. Solar arrays to power a large ion thruster are exorbitantly large, but a SELENE laser could power smaller arrays to make orbit transfers via ion engine a fiscal and engineering reality.

The drawbacks to this project are: (1) Its high cost relative to near-term payoff, and (2) use of a laser for regular power input to new generation satellites creates a vulnerable ground element in the function of a spacecraft.

The Navy currently has no requirement for a Project SELENE capability due to the limited number of spacecraft (12) expected to be launched in the coming 5 years. While of technical merit, Navy sees no operational utility in this program at this time.

Question. Is there a validated military requirement?

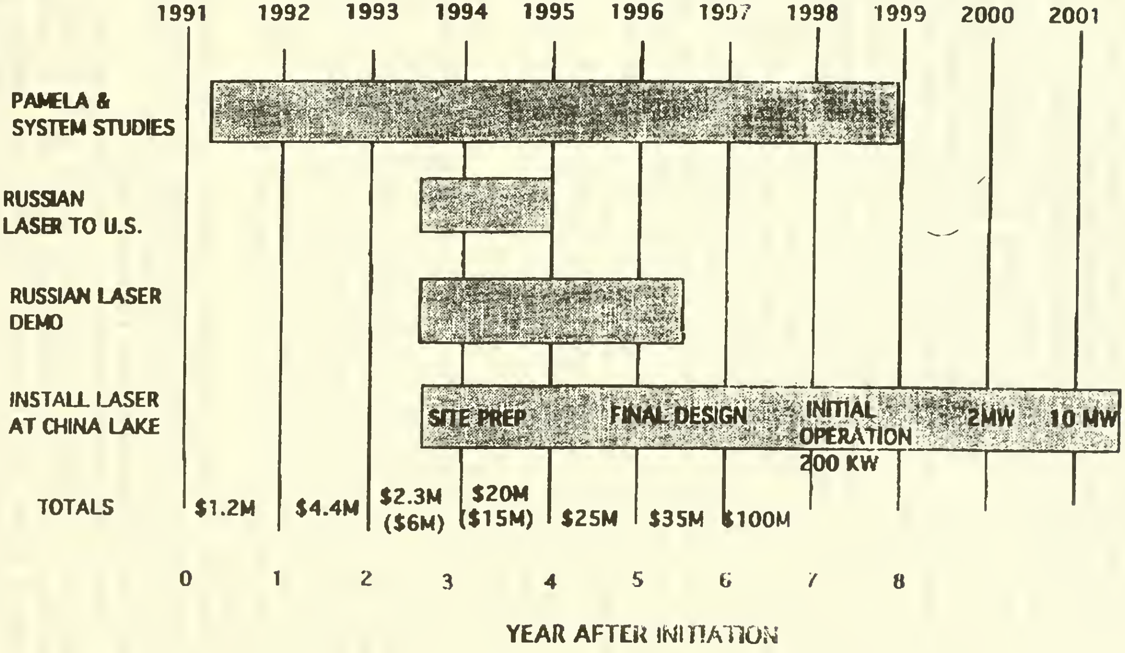
Answer. There are no validated requirements to support this project. Project SELENE does support several DoD Key technology thrusts through the provision of propulsion and energy conversion capabilities. The DoD Key Technologies Plan (AD–A 253692) and the Defense Science and Technology Strategy (AD–A 253691) describe the technology thrusts of DoD which SELENE supports.

Question. What would be the total cost of such a project and how much would be required in fiscal year 1994?

Answer. This project was begun in FY 1992 under NASA, DOD and DOE funding and has cost $7.9 million to date. Total estimated cost of the project to achieve an output of 200 kw, enough to power satellites in geosynchronous orbit, is $187.9 million. However, Navy has no requirement for this capability and Navy has no plan to fund this development.

FEL TIMELINE & COST

Naval Air Warfare Center
China Lake, California



Question. How much is requested in fiscal year 1994 for this effort?

Answer. The Navy has not requested funding for this program.

Question. One option that has been suggested calls for the Navy to acquire Russian laser equipment for the project.

(a) Please describe any Russian equipment that might be used for such an effort.

Answer. At the Budker Institute of Nuclear Physics in Novosibirsk, Russia, a very powerful free electron laser (FEL) was built for military purposes. Most of the components have been fabricated and one, purchased by Duke University, has been evaluated and is very impressive. Unlike U.S. designs the Russian FEL operates with tetrodes, a very rugged type of tube rather than klystrons typical in U.S. designs. It is also designed as a "racetrack microtron recuperator" which feeds the 98% of the electron beam energy remaining after light generation back into the system instead of dumping it, as was planned for the large U.S. FEL systems. It is therefore very energy efficient. The Russian FEL was designed as a 10 Mw system, and over 1000 man years have been used in its construction, which would have to be duplicated if we built a new one based on this design in the U.S. The Director of the Budker Institute has offered to sell the existing system components to the U.S. and assemble them here with U.S. parts.

(b) Would the purchase of this foreign equipment require any U.S. government approval, and if so, have they been granted?

Answer. Approvals would be required. No approval requests have been initiated on this procurement.

(c) What might be the impact, if any, on any technology base in the U.S. that might suffer from importing this Russian technology?

Answer. It is believed that the new technology represented by this laser would have a positive impact on the U.S. technology base. We are now the world leader on adaptive optics and beacon technology, the other requirements for a successful laser beaming systems. This could provide a vehicle to utilize the FEL expertise which we have in this country to develop a laser beaming program and to encourage further development in the FEL area in the United States.

Question. Would you please comment on the feasibility of using ground lasers to improve the efficiency of the conventional solar power system used today and also indicate any potential cost savings that might result from this approach?

Answer. The power density on a satellite panel can be increased above solar intensities by about a factor of 5 without overheating the panel. A 200 kw ground-based laser with a 12 meter mirror, as planned in the initial stage of SELENE, can produce these intensities at geosynchronous orbit. In addition, the SELENE wavelength is chosen to be at the maximum sensitivity of the silicon or gallium arsenide detectors used for solar cells, giving another factor of 2 as compared to solar irradiation. The net gain in efficiency obtained in using the ground-based SELENE laser system is theoretically $2 \times 5 = 10$ times. This order of magnitude improvement in efficiency means that an hour of solar radiation is matched by 6 minute exposure from SELENE.

Potential cost savings are not available due to the lack of technical detail early in this project. Qualitative estimates indicate that all potential savings would be offset by the extraordinary cost of the free electron laser system and the need to position several laser systems about the earth for continuous satellite illumination.

[CLERK'S NOTE.—End of questions submitted for the record. The additional statements as referred to on page 374 follow:]

STATEMENT

OF

CAPTAIN LLOYD E. JAMES

DEPUTY DIRECTOR SPACE SYSTEMS

BEFORE THE

DEFENSE SUBCOMMITTEE

HOUSE APPROPRIATIONS COMMITTEE

MAY 11, 1993

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COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES

Mr. Chairman, distinguished members of the committee, I very much appreciate the opportunity to address this committee today representing the Commander in Chief (CINC) of United States Space Command (USSPACECOM). My prepared statement has one major theme - Space support to the warfighter.

SPACE SUPPORT TO THE WARFIGHTER

With the end of the Cold War, our national military strategy has been refocused from global conflict to regional contingencies. This, coupled with technology advances, has given USCINCSPACE the impetus to realign and prioritize space programs to better meet the requirements of the warfighter.

As stated in the Unified Command Plan, USCINCSPACE is tasked to advocate the space support requirements of other CINCs. Desert Storm and Restore Hope have demonstrated how instrumental space support can be to the success of theater operations. USSPACECOM is working hard towards integrating all military space requirements and systems into joint military planning. Our purpose is to bring all space capabilities to the hands of the warfighter and enable the theater forces to better use them.

The USCINCSPACE Integrated Priority List (IPL), our list of prioritized space requirements, focuses our space efforts to support theater commander's needs. The basic premise of the IPL is - core space capabilities must remain so that we can continue our support to U.S. forces anywhere in the world. Current missile warning systems, space surveillance systems, operations and intelligence centers (including command center consolidation), satellite control network, launch systems, launch ranges, satellite systems (communications, navigation, weather, warning, and environmental monitoring), and intelligence systems must be maintained. To support the warfighter with the current missile warning systems, it is critical to have a fully functional Defense Support Program (DSP) satellite constellation on-orbit. Additionally, we are working to reduce the cost and increase the efficiency of satellite design, acquisition, launch, and operations of space systems to provide more effective support to the warfighter.

The current USCINCSPACE IPL for integrated space support to the warfighter is:

Deploy Follow-on Early Warning System (FEWS) - Improve ballistic missile launch detection capability.

Desert Storm stressed the limits of DSP to detect and report Scud missile launches. We need to provide a significantly improved ballistic missile detection and direct-to-user warning capability. FEWS will provide the space-based sensor system to support NORAD and other U&S CINCs in global and theater missions.

Continue MILSATCOM modernization and use of civil satellite communications.

Satellite communications served as the work horse for long-haul command and control during Desert Storm. Today many of our military communications satellites have reached, or are reaching, the end of their useful life. We must continue to field new MILSATCOM systems like Milstar, Defense Satellite Communications System (DSCS) Follow-on, and UHF Follow-on to ensure a robust space segment will be available to meet our military requirements. Where requirements are less demanding, commercial satellite communications can serve as an effective alternative. A Civil Reserve Air Fleet (CRAF) like approach for civil satellites holds promise. We must also seek terminal and control segment improvements. Smaller, lighter, flexible, and interoperable ground, sea, and air satellite terminals are needed on increasingly diverse battlefields. Terminals and control systems must be fielded with capabilities to operate with different satellites and interface with a wide variety of operating systems.

Tailor support to operational forces by increased exploitation of space systems.

CINCSPACE's commitment to theater CINCs is to normalize space by making space a familiar, responsive, and well understood tool of the warfighter. Examples of programs that fit into this category are Tactical Satellite Systems (TSS), Remote Earth Sensing (includes multispectral imagery and Landsat data distribution), space exploitation demonstrations, and Tactical Exploitation of National Capabilities (TENCAP). These programs provide a series of improvements to rapidly and automatically disseminate tactical warning and targeting information to warfighters. Space exploitation demonstrations provide the mechanism to understand and evaluate the rapidly evolving space capabilities available from the civil and commercial sectors. These systems can meet many of the warfighter's requirements, and when they cannot, the demonstrations can help refine the military-unique requirements that need to be incorporated into future space systems. We will increase the flow and usefulness of national data into deployable operations, communications, and intelligence support packages. We also plan to further exploit USSPACECOM missile warning sensor capabilities to meet warfighter requirements. The theater forces must have the necessary space user equipment such as Global Positioning System (GPS) receivers, satellite communications terminals, and mobile weather "receive terminals".

Improve space launch capabilities.

To support growing warfighter reliance on space forces, we must develop a truly operational spacelift capability. We need a military spacelift capability that can deploy, sustain, and augment space forces when and where they are needed. Spacelift must be reliable, responsive, timely, and affordable, a fundamental requirement for both military and commercial spacelift operations. Critical to this capability is the continued investment in our spacelift infrastructure and the modernization of our spacelift fleet.

Defend against ballistic missiles.

Currently, there is extremely limited capability to protect the United States, U.S. forces, allies, and areas of vital interest against ballistic missile attacks. The dissolution of the Soviet Union has not lessened, and has perhaps increased, the ballistic threat U.S. forces face. The increased proliferation of ballistic missile technology in the third world and the extensive use of ballistic missiles in the gulf war vividly show the need for ballistic missile defense. USSPACECOM strongly advocates the research and development of an integrated ballistic defense system including a space based detection, warning, cueing system coupled with advanced interceptors. As the threat from the proliferation of long-range missiles increases, the validity of an integrated ballistic missile defense system will be realized in the added security from ballistic missile attack it would provide.

Space control.

We fully realize threats from the former Soviet Union have changed, but also see the growing number of space capable nations and commercial sources which could easily market military significant space services to an adversary. We must anticipate the possibility that space systems could be used against U.S. forces in future conflicts. Therefore, to support our theater CINCs, we must ensure the U.S. and our allies can retain use of our space assets, while simultaneously denying hostile forces access to any space-based systems from which they receive support. Space control involves surveillance of space, space system protection, and space negation. To perform space control, we must preserve the capabilities to surveil and monitor all militarily significant activities in space. We seek to design, develop, and operate space systems that will ensure survivability and endurability of their critical functions. Additionally, we are working to develop and deploy the capability to negate an adversary's use of space to support hostile military forces. Options for space system negation could cover the spectrum from interfering with satellite data links to disabling a hostile satellite system or, if necessary, destroy it.

Improve capabilities to provide near real-time, all weather, detection, tracking, and reporting of aerospace and terrestrial hostile forces.

These capabilities can be called wide-area surveillance. While ground, sea, and air-based radar, and over-the-horizon systems provide some near-term coverage on a continuing basis, they do not provide the coverage and responsiveness needed in today's environment. We must improve space-based systems to provide fuller coverage. It is a requirement for all theaters. We must continue to vigorously pursue needed technologies.

Space support is a key support element for U.S. warfighters. It must be easily accessible, sustainable, interoperable, and meet the needs of the theater and national users. USSPACECOM is committed to "normalizing space" by making space a familiar, responsive, and well understood tool of the U.S. warfighter.

USSPACECOM gives the warfighter a one-stop shopping center for their space needs and provide an integrated package of support. In the future, this package should include an improved ballistic missile warning capability, a complete military and commercial communications capability, integrated "black and white" space systems information delivery, and a space control capability.

Space systems, while silent and unseen, continuously and reliably support soldiers, sailors, marines, and airmen deployed around the world - they are always "forward" deployed. Today our forces are heavily dependent on our vital space-based systems and the dedicated professionals who operate and maintain them. This dependence will continue to grow. Space systems must continue to receive your strongest support.

I thank you for the opportunity to testify today.

NOT FOR PUBLICATION UNTIL RELEASED BY THE COMMITTEE

PREPARED STATEMENT OF

COL. PATRICK M. KERN
UNITED STATES AIR FORCE
DEPUTY DIRECTOR
MILITARY SATELLITE COMMUNICATIONS (MILSATCOM) SYSTEMS
ENGINEERING DIRECTORATE
DEFENSE INFORMATION SYSTEMS AGENCY (DISA)

BEFORE THE DEFENSE SUBCOMMITTEE
OF THE HOUSE APPROPRIATIONS COMMITTEE
U.S. HOUSE OF REPRESENTATIVES

IN CONNECTION WITH THE
DoD SPACE AND RELATED PROGRAMS HEARING
TUESDAY, 11 MAY 1993

NOT FOR PUBLICATION UNTIL RELEASED BY THE COMMITTEE

PREPARED STATEMENT OF COL. PATRICK M. KERN, USAF
DEPUTY DIRECTOR, MILSATCOM SYSTEMS ENGINEERING DIRECTORATE
DEFENSE INFORMATION SYSTEMS AGENCY (DISA)
BEFORE THE HAC DEFENSE SUBCOMMITTEE HEARING
ON DOD SPACE AND RELATED PROGRAMS - 11 MAY 1993

Good afternoon, Mr. Chairman and members of the subcommittee. I am Col. Patrick Kern from the Defense Information Systems Agency Military Satellite Communications Office. Thank you for inviting me to present to you an overview of the Military Satellite Communications (MILSATCOM) architecture as it is today and our plans for the future.

The MILSATCOM architecture is the mixture of military satellite systems and commercial satellite services which support defense operations during peacetime, contingency operations and in conflict. The architecture has a warfighting component and a general purpose component. The Warfighting component, composed of SHF and EHF military systems, will satisfy our critical command and control requirements against projected future threat. This component must be flexible enough to support Warfighting requirements, from the soldier on the battlefield to the decision-makers in the command centers. The General Purpose component is much larger, and relies upon both military and commercial systems for sustaining communications in no-threat environments.

The two overarching issues facing the MILSATCOM architecture today stem from the new global political climate. It is increasingly likely that the United States will need to respond to regional contingencies such as allied operations and localized defense, as well as humanitarian aid missions at dispersed locations around the world. To meet this need, US based facilities must support worldwide communications for Joint Task Force missions. We are integrating our MILSATCOM systems into the terrestrial infrastructure within the continental United States to provide seamless, interoperable communications. These new capabilities will allow the MILSATCOM architecture the flexibility to adapt quickly to changes in communications requirements for new and widely varied missions.

The second key issue is a response to the need for streamlining the Defense budget. The Department has taken several steps to conserve our valuable fiscal resources while modernizing the MILSATCOM architecture to satisfy Joint Task Force requirements. For our existing systems, we have first taken actions to reduce the overall costs of MILSTAR, our core warfighting system. We have also reduced the quantity of DSCS satellites to be deployed on-orbit at any one time in order to extend the operational life of the constellation. Finally, we have initiated several efforts to improve our efficiency in collecting and analyzing SATCOM requirements.

We must continue this conscientious effort to seek out new ways to also satisfy our General Purpose communications requirements in a cost effective manner while still supporting U.S. forces in the field. To facilitate this effort, in 1991 the Congress appropriated 15 million dollars for the Department to study how best to use commercial satellite communications services. This effort has been carried out under the guidance of the Assistant Secretary of Defense for Command, Control, Communications and Intelligence. I am happy to report to you that the results of this study are coming to fruition this autumn, and we are already seeing cost effective new options which the Department could successfully implement in the near term (five years). Some of the measures would require new ways of doing business for the Department; others would require seed investments of small amounts to yield greater cost savings over time. All the new options allow the Department more flexible use of commercial technology and services, which in turn enhances our commercial satellite communications industry.

As the Department modernizes and upgrades the MILSATCOM architecture, we in the MILSATCOM Systems Office look forward to supporting the Department in making these critical decisions in the months ahead. Thank you for allowing me to speak today about the MILSATCOM architecture and those that it serves.

That concludes my prepared statement. I would be happy to answer any questions you may have on DISA's support to MILSATCOM systems architecture.

STATEMENT BY

MR. RONALD D. MURPHY
DIRECTOR, ADVANCED SYSTEMS TECHNOLOGY OFFICE
ADVANCED RESEARCH PROJECTS AGENCY

BEFORE THE
SUBCOMMITTEE ON DEFENSE
COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES

REGARDING ARPA'S
ADVANCED SPACE TECHNOLOGY PROGRAM

MAY 11, 1993

Good afternoon, Mr. Chairman and Members of the House Appropriations Defense Subcommittee. I appreciate the opportunity to appear before you to review ARPA's Fiscal Year 1994 Advanced Space Technology Program.

ARPA believes that the key issue impacting our future DoD and civil space capability, U.S. competitiveness and world leadership position, is affordability. Since 1988, at the urging of Congress, ARPA has pursued over 50 space technology programs all specifically aimed at reducing the size, weight, power, and cost of space systems. Our early successes in quickly developing, launching, and operating ten small satellites and two new launch boosters have paved the way for proving that fundamental change is possible. A simple, common sense strategy has been conceived, applicable on a national level, to enable routine, affordable space architecture modernization. The strategic vision calls for the selective use of smaller, capable satellites, as operational adjuncts, to simultaneously permit low cost technology insertion and backbone capability augmentation. The strategy also seeks to use small and larger common bus satellites with "bolt-on" payload interface to support a wide spectrum of missions across multiple satellite constellations. This approach may be able to save billions in life cycle costs by minimizing the high cost of customization and dramatically shortening production time.

The $30M ARPA FY94 program includes several pivotal Advanced Technology Demonstrations (ATDs) involving joint participation of the Services, civilian agencies and the commercial sector. The ATDs, when taken together, will comprehensively validate technologies for this strategy and, at the same time, address capability shortfalls existing today in DoD MILSATCOM and remote sensing space systems. These efforts are inherently dual-use and will directly contribute to cost breakthroughs for commercial satellite production and operation. They also represent a small, but crucial, technology investment in response to and compliance with the FY92 Defense Authorization legislation directing the Secretary of Defense to develop alternate space programs that maximize capabilities at reduced funding levels.

- The centerpiece for achieving affordability gains is the *Advanced Technology Standard Satellite Bus* (ATSSB) program. ATSSB will prove that satellites can be built combining high performance with common industry standards to allow for truly "bolt-on" payloads. This common bus will be capable of supporting a variety of high mass fraction, operationally useful payloads in a wide range of orbits and at very low recurring cost.

- The *Collaboration of Advanced Multi-spectral Earth Observation* (CAMEO) program will demonstrate a critically needed, dual use multi-spectral payload hosted on ATSSB in low earth orbit to support future DoD and civil remote sensing satellite modernization and to stimulate growth in the commercial remote sensing market.

- The *Advanced Satellite Technology and EHF Communications* (ASTEC) program will demonstrate advanced EHF payload technologies capable of being integrated and hosted on ATSSB. This technology will support the modernization of military communication satellite architecture and enable a lighter weight and lower cost polar adjunct for extremely high frequency (EHF) communications.

- The *MILSATCOM Terminal Technology* (IMPACT) program will demonstrate improvements in future MILSATCOM terminal affordability, interoperability and mobility, and together with ASTEC, will demonstrate the means to connect theater-based warfighters with the emerging commercial global fiber communications grid.

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